

Town of Andover

Strategic Information Technology Plan Findings and Recommendations

Version 3.0
March 2010

Table of Contents

I Project Overview

II Executive Summary

III Action Plan

A. Action Plan Schedule

B. Proposed Costs By Year

IV Detailed Findings and Recommendations

A. Alignment of IT Organizational Structures

B. Support the Town-Wide Infrastructure

C. Enhance Information Security and Compliance

D. Reshape and Enhance Processes Through Information Technology

E. Promote Knowledge and Understanding of Town-wide Technologies

F. Expand Governmental Services Through Information Technology

V Appendix

A. Departmental Interview List

B. Internal Survey Summary

C. External Survey Summary

A. Background

The Town of Andover (the “Town”) recognized the need to obtain an independent and outside perspective on the IT strategies for the Town. As such, the Information Technology Committee hired an outside consultant, Blum Shapiro Consulting, LLC (“BlumShapiro”) to develop a Strategic Information Technology Plan (the “Plan”) that would help identify, assess and guide new technologies within the Town to support the Town’s overall goals and objectives. Over the course of approximately three months the BlumShapiro conducted in-depth reviews of all Town departments including the Andover Public Schools to identify the current technologies implemented and confirm new technology related requirements.

The goal of the strategic plan process was to define and coordinate how the Town should focus its resources and to provide a consistent process necessary to link the Town’s various IT Departments, plans and IT initiatives with the needs of the Andover community. The purpose of this plan was to create an umbrella document that provides guidance and direction for Andover’s IT plans, programs and services.

B. Methodology

The goals and objectives of this project include the following:

- Develop a comprehensive inventory and assessment of the existing technology infrastructure and related organizational structure of all Town departments, including Andover Public Schools (APS);
- Assess each department’s current and future technology related needs, identifying various challenges, emerging issues, and potential approaches;
- Review the current IT organizational structure(s) and recommending structure(s) and staffing requirements for effective and efficient operations;
- Recommend process improvements for departments listed within the request for proposal;
- Develop a five-year strategic information technology plan based on the above assessments and reviews, including projected annual costs.

I. Project Overview

As a result of the aforementioned goals and objectives, the project team focused on reviewing and assessing the following:

1. The organizational structure and resources of the Town of Andover's four IT Departments representing:
 - o Town, School, Public Safety and Library
2. The operational requirements of the Town of Andover (hereinafter defined as the Town, School, Public Safety and Library).
3. The requests by residents for access to programs, services and information.
4. New technologies and technology initiatives within the Town of Andover.
5. How to implement new strategies in the most efficient and effective manner.

The process was participative and consultative. The project team interviewed and consulted with Andover's departments. Each department was given significant opportunity to contribute their thoughts and suggestions. Focus group sessions were held with all Town and School departments to identify the key internal and external factors influencing the Town and its overall operations. Additionally, we interviewed members of the Town's Board of Selectman and the School Committee. Surveys were developed and distributed to internal Town personnel and Andover residents, to gain their constructive insight to the Town's technology needs and requirements. The entire strategic information technology plan review process was iterative in nature and overseen and guided by the Information Technology Committee (ITC).

Please Note: Members of the ITC includes IT Directors of the Town and School, and representatives from Andover residents and business IT professionals. The Chairman of the Committee, Len D'Innocenzo is a resident of Andover as well.

C. Strategic Goals

The Town of Andover's Strategic Information Technology Plan is a living document that should help to guide the Town in its IT planning and prioritization process over a five (5) year time frame.

These strategies (for the most part) grew out of the feedback and information from the various departments within the Town. The strategic goals should be used as a basis for setting priorities during the annual budget process. The budget should reflect the priorities for ongoing services, as well as identifying new technology-related projects for future fiscal years. Implementing the documented technology strategies will enable the Town of Andover to achieve its goals and objectives by providing cost effective and quality municipal services.

I. Project Overview

In Section III of this report, the project team identified six key strategies for the Town of Andover. They are:

1. Alignment of IT Organizational Structures.
2. Support the Town-Wide Infrastructure.
3. Enhance Information Security and Compliance.
4. Reshape and Enhance Processes through Information Technology.
5. Promote Knowledge and Understanding of Town-wide Technologies.
6. Expand Governmental Services through Information Technology.

For each strategy, we identified the critical issues involved and provided specific recommendations.

D. Acknowledgements

BlumShapiro would like to thank the Town of Andover and the ITC, for their participation, support, on-going dialog, and feedback during this project. A list of the project participants is provided in the Appendix.

II. Executive Summary

Outlined below is a summary of our findings and recommendations broken out by the six strategies mentioned previously. Included in this executive summary are the implementation schedules of the people, process and technologies to be implemented over the next five years. Our implementation schedule provides a three tier priority structure (Priority 1-red, Priority 2-yellow, Priority 3-green) that identifies the order in which the implementation activities should be addressed (Priority 1 being the highest). A summary of costs and potential savings (cost avoidance or efficiencies) is also included in this section.

IT Organizational Structure

It became apparent during the initial phase of this project that the issues of IT's organizational structure(s) and IT resources were going to have a significant impact on our findings and recommendations. In particular, the Town of Andover has four (4) separate and distinct IT Departments. They represent the following areas: Town, APS, Public Safety and Library. Each IT Department manages their own hardware and software using a common fiber optic infrastructure and network. The Municipal Area Network (MAN) provides fiber optic connections to most of the departments within the Andover community. Each IT Department is responsible for managing and overseeing their respective departments. Each IT Department has their own set of security and operational standards that they have put in place. In general, there is very limited interaction between the four IT Departments.

One of the key discussions and ultimately part of the project team's assessment was the reason for Andover having four independently operating IT Departments. The ITC along with the Town's Board of Selectman and members of the School Committee consistently brought up the strengths and weaknesses of having these four departments. Based on the significance of this topic and the impact that it has on Strategic Information Technology Plan, the project team has provided findings and recommendations centered on the fact that there should be a convergence of the four IT Departments into a single IT agency supporting the Town as a whole. The project team has provided this recommendation along with many others assuming that a single IT agency would be in place to implement and support the IT initiatives of Andover.

II. Executive Summary

A. ALIGNMENT OF IT ORGANIZATIONAL STRUCTURES

Findings:

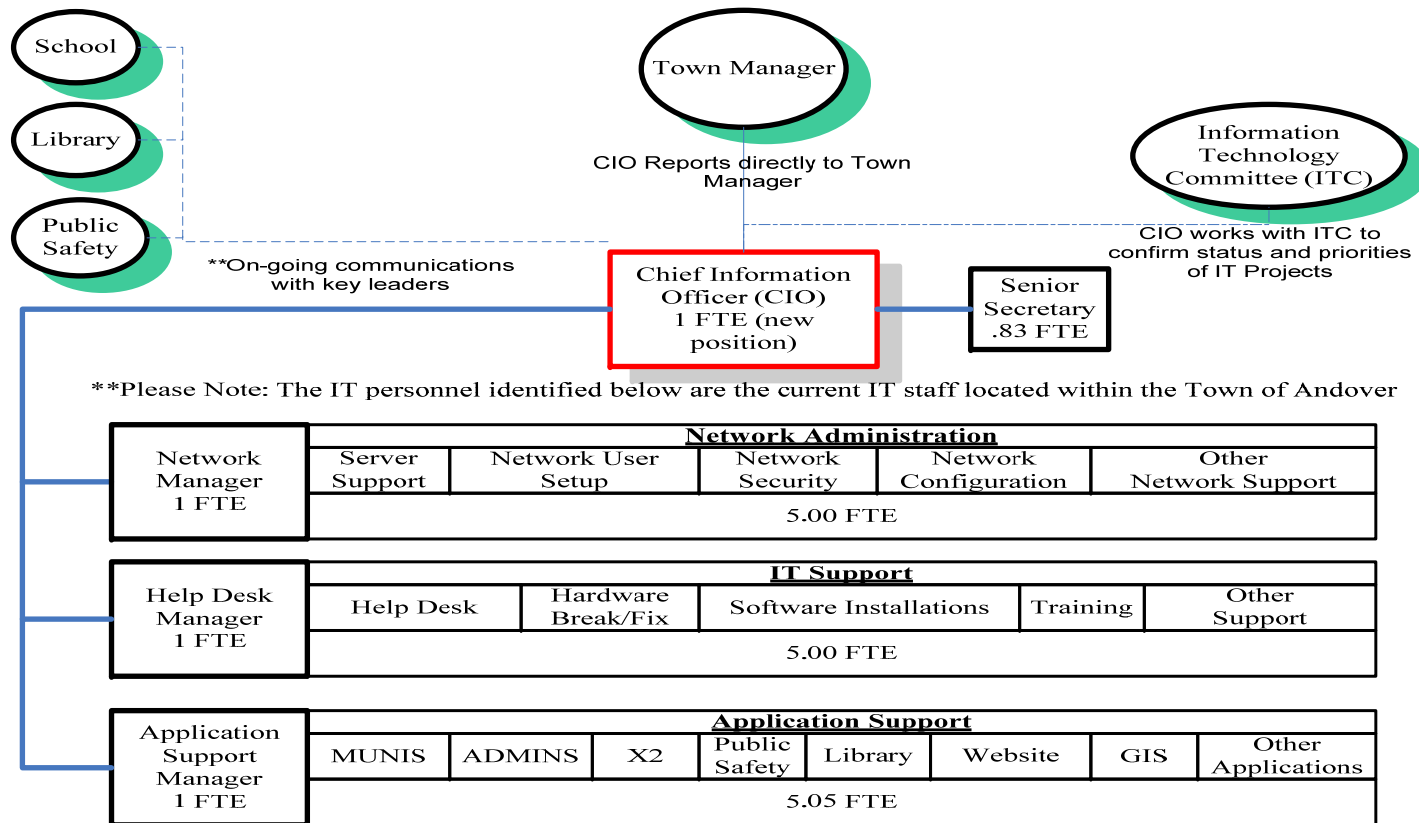
1. Andover has Four Different IT Departments Independently Supporting Various IT Functions and Departments:
 - a. Town IT Department, 4.2 total FTE, 150 workstations and 125 users
 - b. APS IT Department, 10 total FTEs, 6,100 students, 1,050 adult users and 2,500 computers
 - c. Public Safety IT Department, 1.5 FTEs, 130 workstations
 - d. Memorial Hall Library IT Department, 2 FTE's, 60 users and 90 workstations
2. Current IT Organizational Structure Hinders Integration and Communication with all Related IT Departments and Personnel
 - a. Current structure separates hardware, software and support services within each IT Department
 - b. Very little sharing of IT resources and/or knowledge
 - c. Current structure inhibits IT oversight, coordination and direction
 - d. Information technologies are not being used as an enabler of business initiatives

Recommendations:

1. Create a New IT Organizational Structure that Will Enhance the Oversight, Coordination and Direction for all IT Initiatives and Services
 - a. Create a new position and hire a new Chief Information Officer for Andover
 - b. Reclassify IT positions according to new organization chart
 - c. Realign the Geographical Information System (GIS) and the GIS position into the new IT organizational structure
 - d. Create environment where IT provides internal consultants to all Departments
 - e. Develop roles, responsibilities and performance metrics for all personnel within the IT Department
 - f. Create an IT Steering Committee
 - g. Create Service Level Agreements (SLAs) between Town, School, Library and Public Safety

II. Executive Summary

2. Implement The Following IT Structure



Finding:

1. A Centralized IT Support Team Desk Does Not Exist

- Each IT group performs IT support independently of each other
- Some IT departments use help desk tracking software – APS uses School Dude
- Other departments track information manually – this inhibits the ability to create a knowledge base of support information
- Independent IT support teams are inefficient

II. Executive Summary

Recommendations:

1. Create Andover-Wide Central IT Support Team
 - a. The IT Support Team would be responsible for tracking, prioritizing, and resolving all support calls
 - b. The centralized IT Support Team would provide a larger resource pool to share resources when needed
2. Implement a Standard “Help Desk Tracking” Application for the IT Support Team
 - a. The software will allow a standard support approach and tracking to end users:
 - b. Evaluate and implement the “School Dude” software to determine whether it will support the centralized help desk
 - c. Perform a structured software selection for help desk software if “School Dude” will not adequately support the help desk

B. SUPPORT THE TOWN-WIDE INFRASTRUCTURE

Finding:

1. Lack of Global IT Strategy Impacts Ability to Share Applications and Information
 - a. Each IT Department has independently setup their own security strategies
 - b. Even in an integrated domain environment, certain applications and/or data needs to be protected and secured

Recommendations:

1. Implement a Core Domain Strategy Where Applications and Information Can be Shared
 - a. Create a single Core Domain structure
 - b. Current domains can remain independent for security purposes
 - c. Provides a unified security approach to share applications for all domains

II. Executive Summary

Findings:

1. Andover has Outdated Hardware and Supports Many Different Models of Hardware
 - a. Computers/workstations: 73% of APS workstations - 4+ years, APS has some - 8-9 years, Public Safety has some 5+ year old equipment
 - b. Older hardware is more costly to support
 - c. Older hardware will not support some applications are run extremely slow:
 - d. Town supports a variety of printers; 7 different manufacturers, 20 different models, both inkjet and laser
 - e. School supports many printers; 14 different manufacturers, 100 different models, both inkjet and laser
 - f. There is a lack of printer standards which impacts cost and support
2. Andover Supports Multiple Versions of Operating Systems and Software Applications
 - a. Town supports 3 different versions of Windows O/S and multiple versions of other applications
 - b. APS supports 2 different versions of Windows O/S and 5 versions of MS-Office
 - c. Maintaining/supporting multiple software versions causes compatibility and support issues
3. Andover Servers are Running Different Network Operating Systems and Virtualization Software
 - a. Town IT group supports 9 physical servers, 2 virtual servers, 2 Windows O/S versions, Hyper-V software
 - b. APS IT group supports 9 physical servers, 30 virtual servers, 2 Windows O/S versions, Virtual Iron software
 - c. Public Safety IT supports 6 physical servers, no virtual servers
 - d. The Library IT group supports 7 physical servers, 2 Windows O/S versions, no virtual software

Recommendations:

1. Develop a Technology Maintenance, Replacement and Deployment Plan for Printers and Workstations
 - a. Develop a replacement for computers and develop hardware/software standards
2. Develop a Technology Maintenance, Replacement and Deployment Plan for Servers
 - a. Develop a replacement plan to ensure server hardware is kept current
 - b. Develop standards for new servers based on computer needs and requirements

II. Executive Summary

3. Standardize Server Virtualization Software Solution

- a. Develop a plan to evaluate virtualization software solutions
- b. Determine how to deploy the common virtualization solution
- c. Server virtualization provides the capability of running multiple “virtual” servers on a single physical while sharing the resources of the single machine across the environment

C. ENHANCE INFORMATION SECURITY AND COMPLIANCE

Findings:

1. There are Limited Standardized Documented Security Policies and Procedures

- a. During our interviews the various IT departments have different policies, procedures, and protocols related to security
- b. Users were held back due to “security” concerns
- c. Peripherals are not allowed to attach to the network due to “security” concerns
- d. Documented policies and procedures do not exist for certain IT groups

2. A Complete, Documented and Tested Disaster Recovery Plan Does Not Exist

- a. Andover is at risk for losing key systems/data of ADMINS, MUNIS, Email, Pamet, etc.

Recommendations:

1. Develop Information Security Standards – Typical Elements of Information Standards Include:

- a. Define security accountability standards
- b. Perform a Threat Assessment
- c. Create Policies, Procedures, and Standards including:
- d. Develop an education and communication plan to provide:

2. Develop A Business Continuity/Disaster Recovery Plan – Typical Elements Of The Plan Include:

- a. Prioritization of systems for recovery
- b. Assignment of staff roles and responsibilities
- c. Inventory of systems and data maintained on the various servers

II. Executive Summary

- d. Hardware, operating system, and application configuration data
- e. Vendor contacts for mission critical systems
- f. Location of backup media and software
- g. Potential off-site recovery locations

D. RESHAPE AND ENHANCE PROCESSES THROUGH INFORMATION TECHNOLOGY

Finding:

1. A Structured Technology Selection Process Does Not Exist

- a. Many technology decisions have been predicated on the needs and requirements of individual departments and they have pursued their own technology solutions

Recommendation:

1. Implement a Structured Technology Selection Methodology

- a. A structured approach will help to standardize an approach and analyze requirements across Departments
- b. A Software Selection committee should be formed for each technology selection project
- c. Approach should include the following tasks: definition of user needs, determination of technical requirements, development of an RFP, software “Test Drives”
- d. The purchase of the new Permitting application should utilize this methodology
- e. Create a selection committee responsible for overseeing and selecting technology

Findings:

1. The Town has Non-Integrated Financial Systems

- a. Key financial processes such as general ledger, procurement, and revenue collections use a variety of software applications
- b. This situation forces a large number of inefficient manual processes and duplication of information

II. Executive Summary

2. The Town has Aging Customized Systems for Key Processes (Revenue Billings, Collections And Accounts Receivable) Using the ADMINS Database
 - a. The ADMINS software is a character based system
 - b. The ADMINS OpenVMS platform is obsolete
 - c. Access to the ADMINS applications is limited to a few departments
 - d. ADMINS has limited support
 - e. Requires IT resources to customize system
 - f. Limited ability to share enhancements/modifications with other ADMINS users
 - g. Software maintenance does not include changes/modifications to functionality
 - h. Users do not have access to timely information
 - i. Closing cycle of ADMINS impacts timeliness of manual postings into MUNIS
 - j. ADMINS requires separate maintenance for security solutions

Recommendations:

1. Replace Customized ADMINS Systems With Commercial Off-The-Shelf Software Solutions
 - a. Prioritize modules within ADMINS for replacement
 - b. Consider integrated software solutions
2. Perform a Structured Software Selection Process for Replacement of the Tax Billing/Excise And Collection Software System
 - a. Consider the MUNIS application due to the ability to fully integrate with the financial management system
 - b. Consider other vendors with integrated assessment/collection software
3. Evaluate and Implement the MUNIS General Billing, Miscellaneous Receipts and Account Receivables Modules
 - a. Eliminates timing issue for recording of receipts
 - b. Eliminates customized ADMINS receipts subsystem
 - c. Fully integrated with the MUNIS general ledger

II. Executive Summary

Findings:

1. MUNIS Financial Application is not Fully Utilized
 - a. Very limited access - most employees do not have access
 - b. This situation forces a large number of inefficient manual processes related to Purchase Requisition, Budgeting, Human Resources, Time and Attendance
2. MUNIS Financial Application is not Being Proactively Maintained
 - a. The Town is on version 6.5 of MUNIS, the current version of MUNIS is 8.0
 - b. MUNIS will retire the current version of software in 2010

Recommendation:

1. Consider Evaluating Other Financial Software Solutions
 - a. Evaluate functionality and costs of other financial systems
2. Upgrade to the Latest Version Of MUNIS (assuming no other financial solution makes sense)
 - a. Provides new features such as dashboard capabilities through MS SharePoint
 - b. Requires Andover to migrate to SQL version

Recommendations:

1. Increase Utilization Of Existing MUNIS Modules
 - a. Provide Town/School-wide access to MUNIS
 - b. Decentralize purchasing process
 - c. Decentralize payroll time and attendance
 - d. Implement MUNIS Budgeting module
 - e. Re-Implement the MUNIS Human Resources module

II. Executive Summary

2. Evaluate and Implement Additional Integrated MUNIS Modules

- a. Modules include: Treasury Management, Project Accounting, Fixed Assets, Applicant Tracking

Findings:

1. There are Four Independent Microsoft Exchange Email Systems within Andover

- a. Each IT Department oversees and maintains their own Email System
- b. Mailbox sizes (Mail Store) have been growing exponentially
- c. Security concerns exist with the Library MS Exchange implementation

2. Inconsistent Sharing of Documents

- a. Each IT Department oversees and maintains their own departmental security structure to share documents

3. Limited ability for Departments to Collaboration Within and/or Between Other Departments

- a. No collaboration tools currently exist within Town, School, Library or Public Safety

Recommendations:

1. Consider Implementing “Cloud Based” Email, Document Management and Collaboration Tools

- a. Implement an Internet based solution such as Microsoft Business Productivity Online Standard Suite (BPOS)
- b. Leverages a standard suite of integrated software solutions: Microsoft Exchange, SharePoint , Office Live Meeting, Office Communications
- c. Takes advantage of a Tier 1 infrastructure, 24x7x365 technical support, 99.9 % uptime SLA

II. Executive Summary

Findings:

1. The Town has Made a Significant Investment into a Geographical Information System (GIS)
 - a. Town utilizes the industry standard ESRI system
 - b. The Town has over 50 GIS data layers
2. The GIS Software is Underutilized
 - a. During our interviews it was clear users were not aware of the existing layers within the GIS system
 - b. Some departments do not understand what the GIS system is and how they might benefit from it
 - c. The GIS system is not integrated with other Andover applications including: Permitting, Pamet, etc.
3. On-Going Maintenance to the GIS is Limited Due To Resources
 - a. GIS has a part-time support person (26hrs/week)
 - b. GIS data requires continual maintenance
 - c. GIS software is constantly updated requiring maintenance and training

Recommendations:

1. Resurrect the GIS Steering Committee
 - a. The group should be comprised of the major GIS users
 - b. The roles of this group are to: develop a plan, prioritize new layers, and integrate with other applications
 - c. The GIS user group should be comprised of user departments and an IT department members
2. Develop an On-Going Maintenance/Enhancement Program for the GIS System
 - a. Commit additional resources to maintaining the GIS system
 - b. Develop a long-term plan to maintain and enhance the GIS system

II. Executive Summary

Findings:

1. A Document Management and Digital Imaging Strategy Does Not Exist

- a. Town and School departments struggle with the ongoing storage and retrieval of documents; both electronic and hard copy
- b. Town purchased LaserFiche software in order to digitally image and store documents; there is no structured approach to creating, deleting and/or storing documents; lack of leadership for a digital imaging and document retention strategy

Recommendations:

1. Create a Document Management and Digital Imaging Strategy

- a. Evaluate the capabilities of the LaserFiche software application
- b. Develop document retention policy and procedures
- c. Identify person(s) responsible for implementing and overseeing strategy, policy and procedures

Finding:

1. The Town has Implemented Several Different Data Analysis/Reporting Tools

- a. Business Objects/Crystal Reports; IQ Objects; MS Access; ADMINS

**Business Objects and Crystal Reports have become a unified report writing tool

Recommendations:

1. Standardize Report Writing Tool with Business Objects

- a. Integrated with the MUNIS system
- b. Industry standard report writing tool

2. Develop A Training And Deployment Plan For Business Objects

- a. Identify “power users” who will create reports
- b. Determine process for prioritizing and deploying reports
- c. Determine standards for developing, documenting and testing custom reports

II. Executive Summary

E. PROMOTE KNOWLEDGE AND UNDERSTANDING OF TOWN-WIDE TECHNOLOGIES

Finding:

1. Formalized Training Programs Do Not Exist for all Users and IT Support Staff

- a. Staff have received little or no user training
- b. Impacts ability to utilize application features and functions
- c. Lack of training means users will require greater levels of support
- d. IT staff do not regularly attend key seminars and technical conferences

Recommendation:

1. Implement A Structured Training Program

- a. Develop a regular training program for all major software systems including GIS, MUNIS, X2, MS Office, Business Objects, etc
- b. Update new employee orientation to include training
- c. Consider using outside training classes
- d. Attend software user groups and user conferences
- e. Implement a training plan for IT staff

F. EXPAND GOVERNMENTAL SERVICES THROUGH INFORMATION TECHNOLOGY

Finding:

1. The Town has Four Different Websites Offering Various Services

- a. Informational services and E-commerce services
- b. The citizen survey identified a number of important on-line services including: parent/student portal, on-line hazard alerts, on-line payments, etc.

II. Executive Summary

Recommendations:

1. Create a Website Committee to Sponsor Oversight of all the Websites - Key Responsibilities Include
 - a. Oversight and direction for development and maintenance
 - b. Programming and content standards
 - c. Sounding board of departments regarding web-site decisions
 - d. Coordinate the collaboration of the various websites (Town, APS, Public Safety, and Library)

2. Increase The Use Of The Internet For Residents, Vendors, And Employees
 - a. Enhance services to residents
 - b. Evaluate and Implement the MUNIS “Vendor Self Service” module
 - c. Evaluate and Implement MUNIS Employee Self Serve module

II. Executive Summary

A. ACTION PLAN SCHEDULE

Outlined below is an action plan schedule that provides action items by year by priority.

Item	Action Plan Description	Year 1	Year 2	Year 3	Year 4	Year 5
<u>Year 1 Action Plan Activities</u>						
A.1	Create a new IT Organization Structure					
	a. Create a new position and hire a new Chief Information Officer for Andover					
	b. Realign GIS and GIS position into new IT organizational structure and add staff hours					
	c. Add hours to GIS Position					
	d. Develop roles, responsibilities & performance metrics for IT Department personnel					
	e. Create Service Level Agreements between Town, School, Library and Public Safety					
B.1	Create An Andover-Wide IT Support Team					
C.1	Implement A Standard "Help Desk Tracking" Application For The IT Support Team					
D.1	Implement A Core Domain Strategy Where Applications and Information Can be Shared					
E.1	Create an IT Steering Committee					
F.1	Standardize On A Server Virtualization Software Solution					
G.1	Develop Information Security Standards					
H.1	Implement a Structured Technology Selection Methodology					
I.1	Prioritize modules within ADMINIS for replacement					
J.1	Consider Evaluating Other Financial Software Solutions					
K.1	Upgrade To The Latest Version Of MUNIS					
L.1	Resurrect The GIS Steering Committee					
M.1	Create A Website Committee To Sponsor Oversight Of All The Websites					
<u>Year 2 Action Plan Activities</u>						
A.2	Develop Technology Maintenance, Replacement & Deployment Plan For Printers/Workstations					
B.2	Develop A Technology Maintenance, Replacement And Deployment Plan For Servers					
C.2	Develop A Business Continuity/Disaster Recovery Plan					
D.2	Perform Structured Software Selection Process For Replacement Of Tax Collection System					
E.2	Evaluate and Implement the MUNIS Billing, Receipts and Accounts Receivable modules					
F.2	Purchase Printer and Workstation as part of on-going maintenance					
G.2	Purchase Servers as part of on-going maintenance					
H.2	Provide broader Town/School-wide Access To MUNIS					
I.2	Increase MUNIS Utilization					
J.2 a.	Decentralized Purchasing					
K.2 b.	Decentralized Budget Development					
L.2 c.	Decentralized Time and Attendance Input					
M.2 d.	Re-implement the Human Resources module					
N.2	Standardize Report Writing Tool With Business Objects					
O.2	Implement A Structured Training Program					
P.2	Implement MUNIS Citizen Self-service					

III. Action Plan

A. Action Plan Schedule and Costs

We recommend a phased approach to implement the new processes, people and technologies proposed in the Strategic Information Technology Plan. This approach takes into account the cost and resource constraints the Town faces. By initially developing a core technological foundation for the Town, new hardware, software and other technological capabilities can be implemented incrementally over the next five years.

Key action items for each year are outlined below. Cost summary and line item detail is also provided at the end of this section.

Assumptions and Notes:

1. There are a lot of processes and people related activities that should be implemented first, prior to the purchase of any significant technologies. Unifying the IT Departments and hiring a Chief Information Officer (CIO) is critical to the success of this plan. Once this is implemented, standards need to be developed.
2. The Town of Andover should adopt and implement standards throughout the entire organization as some of the first action activities indicate. This report provides a series of standards including: software selection approach, security policies and procedures, PC standards, printer standards, server standards, etc.
3. Outlined below is the legend for the Action Plan. Priority 1 activities should be implemented first. Priority 2 activities next and then priority 3 activities.

Priority 1	
Priority 2	
Priority 3	

Cost Assumptions

1. The hardware costs included in this section were developed using the Commonwealth of Massachusetts contract with Hewlett Packard.
2. A majority of the software costs were provided by either the respective vendor or information obtained from Internet sites.
 - a. The MUNIS software license costs reflect a 5% discount.
3. Salary information was developed from current year salary budgets provided by the Town and School District.
4. Within the cost schedules, the column labeled “annual costs” represents capital versus operating costs. A “yes” designation identifies operating costs. The “savings type” column represents Hard or Soft cost savings.

The following pages provide more details on the implementation schedule of the various recommendations made within this report.

III. Action Plan

Year 1 Action Plan Activities

Capital & Operating Costs -	\$245,596
Potential Savings	<u>(\$171,763)</u>
Cost/Savings	\$ 73,834

Item	Action Plan Description	Year 1
A.1	Create a new IT Organization Structure	
a.	Create a new position and hire a new Chief Information Officer for Andover	
b.	Realign GIS and GIS position into new IT organizational structure and add staff hours	
c.	Add hours to GIS Position	
d.	Develop roles, responsibilities & performance metrics for IT Department personnel	
e.	Create Service Level Agreements between Town, School, Library and Public Safety	
B.1	Create An Andover-Wide IT Support Team	
C.1	Implement A Standard “Help Desk Tracking” Application For The IT Support Team	
D.1	Implement A Core Domain Strategy Where Applications and Information Can be Shared	
E.1	Create an IT Steering Committee	
F.1	Standardize On A Server Virtualization Software Solution	
G.1	Develop Information Security Standards	
H.1	Implement a Structured Technology Selection Methodology	
I.1	Prioritize modules within ADMINIS for replacement	
J.1	Consider Evaluating Other Financial Software Solutions	
K.1	Upgrade To The Latest Version Of MUNIS	
L.1	Resurrect The GIS Steering Committee	
M.1	Create A Website Committee To Sponsor Oversight Of All The Websites	

III. Action Plan

Year 2 Action Plan Activities

Capital & Operating Costs -	\$1,022,033
Potential Savings	<u>(\$ 655,206)</u>
Cost/Savings	\$ 366,827

Item	Action Plan Description	Year 2
A.2	Develop Technology Maintenance, Replacement & Deployment Plan For Printers/Workstations	
B.2	Develop A Technology Maintenance, Replacement And Deployment Plan For Servers	
C.2	Develop A Business Continuity/Disaster Recovery Plan	
D.2	Perform Structured Software Selection Process For Replacement Of Tax Collection System	
E.2	Evaluate and Implement the MUNIS Billing, Receipts and Accounts Receivable modules	
F.2	Purchase Printer and Workstation as part of on-going maintenance	
G.2	Purchase Servers as part of on-going maintenance	
H.2	Provide broader Town/School-wide Access To MUNIS	
I.2	Increase MUNIS Utilization	
J.2	a. Decentralized Purchasing	
K.2	b. Decentralized Budget Development	
L.2	c. Decentralized Time and Attendance Input	
M.2	d. Re-implement the Human Resources module	
N.2	Standardize Report Writing Tool With Business Objects	
O.2	Implement A Structured Training Program	
P.2	Implement MUNIS Citizen Self-service	

III. Action Plan

Years 3 through 5 – Action Plan Activities

	<u>Year 3</u>	<u>Year 4</u>	<u>Year 5</u>
Capital & Operating Costs	\$985,914	\$1,159,045	\$1,015,187
Potential Savings	<u>(\$1,198,056)</u>	<u>(\$860,856)</u>	<u>(\$867,356)</u>
Cost/Savings	<u>(\$212,142)</u>	<u>\$298,188</u>	<u>\$147,830</u>

Item	Action Plan Description	Year 3	Year 4	Year 5
<u>Year 3 Action Plan Activities</u>				
A.3	Consider Implementing “Cloud Based” Email, Document Management and Collaboration Tools			
B.3	Create a Document Management and Digital Imaging Strategy			
C.3	Develop A Training And Deployment Plan For Business Objects			
D.3	Implement MUNIS Employee Self-service			
E.3	Implement Standardized virtualization software			
F.3	Continue Printer and Workstation maintenance			
G.3	Continue Server maintenance			
<u>Year 4 Action Plan Activities</u>				
A.4	Implement additional MUNIS financial modules (Treasury, Project Accounting, & Fixed Assets)			
B.4	Implement MUNIS Applicant Tracking module			
C.4	Continue Printer and Workstation maintenance			
D.4	Continue Server maintenance			
<u>Year 5 Action Plan Activities</u>				
A.5	Implement MUNIS vendor self-service			
B.5	Continue Printer and Workstation maintenance			
C.5	Continue Server maintenance			

Town of Andover Strategic Technology Plan Proposed Costs by Year			Year 1				Year 2			
	Annual	Savings	Unit		Total	Potential	Unit		Total	Potential
	Cost	Type	Units	Cost	Cost	Savings	Units	Cost	Cost	Savings
I. Alignment of IT Organization Structure										
1. Alignment of IT Organization										
a. New CIO Position										
1) Salary	Y		1	\$ 110,000	\$ 110,000		1	\$ 113,300	\$ 113,300	
2) Benefits	Y		1	\$ 33,000	\$ 33,000		1	\$ 33,990	\$ 33,990	
b. Implement Std Help Desk Software	Y		1	\$ 4,000	\$ 4,000		1	\$ 4,000	\$ 4,000	
c. Additional GIS Staff Hours 52K 10hrs /week										
1) Wages	Y		520	\$ 26.00	\$ 13,520		520	\$ 26.78	\$ 13,926	
2) Benefits	Y		520	\$ 7.80	\$ 4,056		520	\$ 8.03	\$ 4,178	
<u>Cost Avoidance/ Savings</u>										
a. Increase IT Personnel efficiencies										
-Average salary 60K *17.5 FTE 2 hours/week		S	910	\$ 30		\$27,300	1820	\$ 30		\$54,600
b. Efficiencies from centralized Help Desk Support										
- Users ability to look up and access knowledgebase										
-Average salary 45K *1,350 FTE .1 hours/week		S	3510	\$ 23		\$78,975	7020	\$ 23		\$157,950
II Support Town-wide Infrastructure										
1. Security Strategy										
a. Implement Core Domain Strategy										
2. Servers and PCs										
a. Upgrade workstations/laptops	Y						500	\$ 650	\$ 325,000	
b. Upgrade Printers	Y						100	\$ 1,200	\$ 120,000	
c. Upgrade Servers	Y						5	\$ 15,000	\$ 75,000	
3. Virtualization Standardization										
<u>Cost Avoidance/ Savings</u>										
a. -Improve purchasing capabilities										
-Cost savings on workstations-10%		H					500	\$ 65		\$32,500
-Cost savings on printers-15%		H					100	\$ 180		\$18,000
-Cost savings on servers-10%		H					5	\$ 1,500		\$7,500
b. -Improve purchasing of supplies										
-Printer cartridges, other		H					800	\$ 10		\$8,000
c. -Minimize purchase of servers through Virtualization										
-Reduction of server purchases		H								
III. Enhance Information Security & Compliance										
1. Document Standardized Security Policies			1	\$ 25,000	\$ 25,000					
2. Develop a Disaster Recovery Plan							1	\$ 35,000	\$ 35,000	
<u>Cost Avoidance/ Savings</u>										
a. -Securing information assets & maintaining compliance										
-Average salary 45K *1350 FTE .1 hours/month		S	1755	\$ 23		\$39,488	1300	\$ 23		\$29,250

Town of Andover Strategic Technology Plan Proposed Costs by Year			Year 1				Year 2			
	Annual	Savings	Unit		Total	Potential	Unit		Total	Potential
	Cost	Type	Units	Cost	Cost	Savings	Units	Cost	Cost	Savings
IV. Enhance Processes Through Technology										
1. Financial Management System										
a. Upgrade to MUNIS SQL Version										
1) Conversion services			1	\$ 16,300	\$ 16,300					
2) License upgrades			1	\$ 19,720	\$ 19,720					
3) Hardware and Server(s) upgrade			1	\$ 20,000	\$ 20,000					
b. Miscellaneous Billing and receipts										
1) Software							1	\$ 41,800	\$ 41,800	
2) Training							1	\$ 19,425	\$ 19,425	
3) Maintenance	Y						1	\$ 7,920	\$ 7,920	
c. Tax Collection Software										
1) Selection Project							1	\$ 15,000	\$ 15,000	
2) Software							1	\$ 42,845	\$ 42,845	
3) Training							1	\$ 29,525	\$ 29,525	
4) Maintenance	Y						1	\$ 12,375	\$ 12,375	
5) Conversion							1	\$ 12,000	\$ 12,000	
d. Increase MUNIS utilization										
1) Decentralized Purchasing							1	\$ 5,100	\$ 5,100	
2) Decentralized Budget Development							1	\$ 2,550	\$ 2,550	
3) Decentralized payroll input							1	\$ 4,800	\$ 4,800	
4) MUNIS HR							1	\$ 19,125	\$ 19,125	
e. Additional Financial MUNIS modules										
(Treasury, Project Accounting, Fixed Assets)										
1) Software										
2) Training										
3) Maintenance	Y									
4) Conversion										
f. Additional Payroll MUNIS modules										
(Applicant Tracking)										
1) Software										
2) Training										
3) Maintenance	Y									
g. Implement Microsoft BPOS	Y									
<u>Cost Avoidance/ Savings</u>										
a. Increase Billing efficiencies										
-Average salary 50K *20 FTE 1 hours/week		S	1040	\$ 25		\$26,000	1040	\$ 25		\$26,000
b. Increase Tax processing and efficiencies										
- Repurpose IT Staff										
-Average salary 50K * 26 hours/week		S					1248	\$ 25		\$31,200
-Enhance Tax operations and efficiencies										
-Average salary 50K *20 FTE 1 hours/week		S					1040	\$ 25		\$26,000
-Inability to produce tax bills		S					1	\$ 100,000		\$100,000
c. Increase efficiencies through decentralization										
- Purchasing										

Town of Andover Strategic Technology Plan Proposed Costs by Year			Year 1				Year 2			
	Annual	Savings	Unit		Total	Potential	Unit		Total	Potential
	Cost	Type	Units	Cost	Cost	Savings	Units	Cost	Cost	Savings
-Average salary 50K *100 FTE .25 hours/week		S					1300	\$ 25		\$32,500
- Budgeting										
-Average salary 50K *100 FTE .25 hours/month		S					325	\$ 25		\$8,125
- Payroll-time and Attendance										
-Average salary 50K *100 FTE .25 hours/week		S					1300	\$ 25		\$32,500
- Human Resources										
-Average salary 50K *25 FTE .25 hours/month		S					81.3	\$ 25		\$2,031
d. Increase efficiencies through additional modules										
- Treasury, Project Accounting, Fixed Assets)										
-Average salary 50K *50 FTE .25 hours/week		S								
e. BPOS Cost avoidance and savings										
Eliminate replacement cost of Exchange servers		H								
Eliminate additional hard drive disk costs		H								
Eliminate Need for Disaster Recovery services		H								
Eliminate Need for maintenance of backup/DR services										
-Average salary 60K * 1 FTE, 2 hours/week		S								
Eliminate Anti-Virus/Spam/Phishing services on servers		H								
Eliminate cost of purchasing a SharePoint server		H								
Eliminate Exchange 2010 user licensing		H								
Eliminate Exchange 2010 server licensing		H								
Eliminate purchase of Sharepoint user licenses		H								
Reduce IT Personnel maintenance of Email Server										
-Average salary 60K * 4 FTE, 2 hours/week		S								
Reduce IT Personnel maintenance of SharePoint Server										
-Average salary 60K * 4 FTE, 2 hours/week		S								
Reduce IT Personnel help desk support of Email system										
-Average salary 60K * 4 FTE, 4 hours/week		S								
-Microsoft provides 24/7 email support		S								
Increase efficiencies for searching of documents										
-Average salary 45K * 1350 FTE, .1 hours/week		S								
V. Promote Knowledge and Understanding										
1. End-user training program	Y						1	\$ 25,000	\$ 25,000	
2. IT Staff Technical training	Y						5	\$ 5,000	\$ 25,000	
3. Certification and maintenance	Y									
<u>Cost Avoidance/ Savings</u>										
a. Increase efficiencies with software										
-Average salary 45K *250 FTE .1 hours/week		S					1300	\$ 23		\$29,250
-Average salary 60K *17.5 FTE 1 hours/week		S					910	\$ 30		\$27,300

Town of Andover Strategic Technology Plan Proposed Costs by Year			Year 1				Year 2			
	Annual	Savings	Unit		Total	Potential	Unit		Total	Potential
	Cost	Type	Units	Cost	Cost	Savings	Units	Cost	Cost	Savings
VI. Expand Governmental Services										
1. MUNIS Citizen Self-Serve										
a. Software							1	\$ 28,500	\$ 28,500	
b. Training							1	\$ 1,275	\$ 1,275	
c. Maintenance	Y						1	\$ 5,400	\$ 5,400	
2. MUNIS Business/Vendor Self-Serve										
a. Software										
b. Training										
c. Maintenance	Y									
3. MUNIS Employee Self-Serve										
a. Software										
b. Training										
c. Maintenance	Y									
<u>Cost Avoidance/ Savings</u>										
a. Reduce phone calls with Citizen Self Serve software										
-Average salary 50K *100 FTE .25 hours/week		S					1300	\$ 25		\$32,500
b. Reduce phone calls with Vendort Self Serve software										
-Average salary 50K *50 vendors .1 hours/week		S								
c. Reduce phone calls with Employee Self Serve software										
-Average salary 50K *335 FTE .1 hours/week		S								
Totals					\$ 245,596	\$ 171,763			\$ 1,022,033	\$ 655,206

Town of Andover Strategic Technology Plan Proposed Costs by Year			Year 3				Year 4			
	Annual	Savings	Unit		Total	Potential	Unit		Total	Potential
	Cost	Type	Units	Cost	Cost	Savings	Units	Cost	Cost	Savings
I. Alignment of IT Organization Structure										
1. Alignment of IT Organization										
a. New CIO Position										
1) Salary	Y		1	\$ 116,699	\$ 116,699		1	\$ 120,200	\$ 120,200	
2) Benefits	Y		1	\$ 35,010	\$ 35,010		1	\$ 36,060	\$ 36,060	
b. Implement Std Help Desk Software	Y		1	\$ 4,000	\$ 4,000		1	\$ 4,000	\$ 4,000	
c. Additional GIS Staff Hours 52K 10hrs /week										
1) Wages	Y		520	\$ 27.58	\$ 14,343		520	\$ 28.41	\$ 14,774	
2) Benefits	Y		520	\$ 8.28	\$ 4,303		520	\$ 8.52	\$ 4,432	
<u>Cost Avoidance/ Savings</u>										
a. Increase IT Personnel efficiencies										
-Average salary 60K *17.5 FTE 2 hours/week		S	1820	\$ 30		\$54,600	1820	\$ 30		\$54,600
b. Efficiencies from centralized Help Desk Support										
- Users ability to look up and access knowledgebase										
-Average salary 45K *1,350 FTE .1 hours/week		S	7020	\$ 23		\$157,950	7020	\$ 23		\$157,950
II Support Town-wide Infrastructure										
1. Security Strategy										
a. Implement Core Domain Strategy										
2. Servers and PCs										
a. Upgrade workstations/laptops	Y		500	\$ 650	\$ 325,000		500	\$ 650	\$ 325,000	
b. Upgrade Printers	Y		100	\$ 1,200	\$ 120,000		100	\$ 1,200	\$ 120,000	
c. Upgrade Servers	Y		5	\$ 15,000	\$ 75,000		5	\$ 15,000	\$ 75,000	
3. Virtualization Standardization							1	\$ 48,000	\$ 48,000	
<u>Cost Avoidance/ Savings</u>										
a. -Improve purchasing capabilities										
-Cost savings on workstations-10%		H	500	\$ 65		\$32,500	500	\$ 65		\$32,500
-Cost savings on printers-15%		H	100	\$ 180		\$18,000	100	\$ 180		\$18,000
-Cost savings on servers-10%		H	5	\$ 1,500		\$7,500	5	\$ 1,500		\$7,500
b. -Improve purchasing of supplies										
-Printer cartridges, other		H	800	\$ 10		\$8,000	800	\$ 10		\$8,000
c. -Minimize purchase of servers through Virtualization										
-Reduction of server purchases		H								
							3	\$ 15,000		\$ 45,000
III. Enhance Information Security & Compliance										
1. Document Standardized Security Policies										
2. Develop a Disaster Recovery Plan										
<u>Cost Avoidance/ Savings</u>										
a. -Securing information assets & maintaining compliance										
-Average salary 45K *1350 FTE .1 hours/month		S	1300	\$ 23		\$29,250	1300	\$ 23		\$29,250

Town of Andover Strategic Technology Plan Proposed Costs by Year			Year 3				Year 4			
	Annual Cost	Savings Type	Units	Unit Cost	Total Cost	Potential Savings	Units	Unit Cost	Total Cost	Potential Savings
IV. Enhance Processes Through Technology										
1. Financial Management System										
a. Upgrade to MUNIS SQL Version										
1) Conversion services										
2) License upgrades										
3) Hardware and Server(s) upgrade										
b. Miscellaneous Billing and receipts										
1) Software										
2) Training										
3) Maintenance	Y		1	\$ 7,920	\$ 7,920		1	\$ 7,920	\$ 7,920	
c. Tax Collection Software										
1) Selection Project										
2) Software										
3) Training										
4) Maintenance	Y		1	\$ 12,375	\$ 12,375		1	\$ 12,375	\$ 12,375	
5) Conversion										
d. Increase MUNIS utilization										
1) Decentralized Purchasing										
2) Decentralized Budget Development										
3) Decentralized payroll input										
4) MUNIS HR										
e. Additional Financial MUNIS modules (Treasury, Project Accounting, Fixed Assets)										
1) Software							1	\$ 76,285	\$ 76,285	
2) Training							1	\$ 24,825	\$ 24,825	
3) Maintenance	Y						1	\$ 14,454	\$ 14,454	
4) Conversion							1	\$ 7,000	\$ 7,000	
f. Additional Payroll MUNIS modules (Applicant Tracking)										
1) Software							1	\$ 12,540	\$ 12,540	
2) Training							1	\$ 7,850	\$ 7,850	
3) Maintenance	Y						1	\$ 2,376	\$ 2,376	
g. Implement Microsoft BPOS	Y		1,350	\$ 120	\$ 162,000		1,350	\$ 120	\$ 162,000	
<u>Cost Avoidance/ Savings</u>										
a. Increase Billing efficiencies										
-Average salary 50K *20 FTE 1 hours/week		S	1040	\$ 25		\$26,000	1040	\$ 25		\$26,000
b. Increase Tax processing and efficiencies										
- Repurpose IT Staff										
-Average salary 50K * 26 hours/week		S	1248	\$ 25		\$31,200	1248	\$ 25		\$31,200
-Enhance Tax operations and efficiencies										
-Average salary 50K *20 FTE 1 hours/week		S	260	\$ 25		\$6,500	260	\$ 25		\$6,500
-Inability to produce tax bills		S								
c. Increase efficiencies through decentralization										
- Purchasing										

Town of Andover Strategic Technology Plan Proposed Costs by Year			Year 3				Year 4			
	Annual	Savings	Unit		Total	Potential	Unit		Total	Potential
	Cost	Type	Units	Cost	Cost	Savings	Units	Cost	Cost	Savings
-Average salary 50K *100 FTE .25 hours/week		S	1300	\$ 25		\$32,500	1300	\$ 25		\$32,500
- Budgeting										
-Average salary 50K *100 FTE .25 hours/month		S	325	\$ 25		\$8,125	325	\$ 25		\$8,125
- Payroll-time and Attendance										
-Average salary 50K *100 FTE .25 hours/week		S	1300	\$ 25		\$32,500	1300	\$ 25		\$32,500
- Human Resources										
-Average salary 50K *25 FTE .25 hours/month		S	81.25	\$ 25		\$2,031	81.25	\$ 25		\$2,031
d. Increase efficiencies through additional modules										
- Treasury, Project Accounting, Fixed Assets)										
-Average salary 50K *50 FTE .25 hours/week		S					650	\$ 25		\$16,250
e. BPOS Cost avoidance and savings										
Eliminate replacement cost of Exchange servers		H	4	\$ 15,000		\$60,000				
Eliminate additional hard drive disk costs		H	1350	\$ 5		\$6,750				
Eliminate Need for Disaster Recovery services		H	4	\$ 16,000		\$64,000				
Eliminate Need for maintenance of backup/DR services										
-Average salary 60K * 1 FTE, 2 hours/week		S	416	\$ 30		\$12,480	416	\$ 30		\$12,480
Eliminate Anti-Virus/Spam/Phishing services on servers		H	4	\$ 5,000		\$20,000				
Eliminate cost of purchasing a SharePoint server		H	1	\$ 15,000		\$15,000				
Eliminate Exchange 2010 user licensing		H	1350	\$ 70		\$94,500				
Eliminate Exchange 2010 server licensing		H	4	\$ 800		\$3,200				
Eliminate purchase of Sharepoint user licenses		H	1350	\$ 100		\$135,000				
Reduce IT Personnel maintenance of Email Server										
-Average salary 60K * 4 FTE, 2 hours/week		S	416	\$ 30		\$12,480	416	\$ 30		\$12,480
Reduce IT Personnel maintenance of SharePoint Server										
-Average salary 60K * 4 FTE, 2 hours/week		S	416	\$ 30		\$12,480	416	\$ 30		\$12,480
Reduce IT Personnel help desk support of Email system										
-Average salary 60K * 4 FTE, 4 hours/week		S	832	\$ 30		\$24,960	832	\$ 30		\$24,960
-Microsoft provides 24/7 email support		S								
Increase efficiencies for searching of documents										
-Average salary 45K * 1350 FTE, .1 hours/week		S	7020	\$ 23		\$157,950	7020	\$ 23		\$157,950
V. Promote Knowledge and Understanding										
1. End-user training program	Y		1	\$ 25,000	\$ 25,000		1	\$ 25,000	\$ 25,000	
2. IT Staff Technical training	Y		5	\$ 5,000	\$ 25,000		5	\$ 5,000	\$ 25,000	
3. Certification and maintenance	Y		3	\$ 8,000	\$ 24,000		3	\$ 8,000	\$ 24,000	
<u>Cost Avoidance/ Savings</u>										
a. Increase efficiencies with software										
-Average salary 45K *250 FTE .1 hours/week		S	1300	\$ 23		\$29,250	1300	\$ 23		\$29,250
-Average salary 60K *17.5 FTE 1 hours/week		S	910	\$ 30		\$27,300	910	\$ 30		\$27,300

Town of Andover Strategic Technology Plan Proposed Costs by Year			Year 3				Year 4			
	Annual Cost	Savings Type	Units	Unit Cost	Total Cost	Potential Savings	Units	Unit Cost	Total Cost	Potential Savings
VI. Expand Governmental Services										
1. MUNIS Citizen Self-Serve										
a. Software										
b. Training										
c. Maintenance	Y		1	\$ 5,400	\$ 5,400		1	\$ 5,400	\$ 5,400	
2. MUNIS Business/Vendor Self-Serve										
a. Software										
b. Training										
c. Maintenance	Y									
3. MUNIS Employee Self-Serve										
a. Software			1	\$ 24,035	\$ 24,035					
b. Training			1	\$ 1,275	\$ 1,275					
c. Maintenance	Y		1	\$ 4,554	\$ 4,554		1	\$ 4,554	\$ 4,554	
<u>Cost Avoidance/ Savings</u>										
a. Reduce phone calls with Citizen Self Serve software										
-Average salary 50K *100 FTE .25 hours/week		S	1300	\$ 25		\$32,500	1300	\$ 25		\$32,500
b. Reduce phone calls with Vendort Self Serve software										
-Average salary 50K *50 vendors .1 hours/week		S								
c. Reduce phone calls with Employee Self Serve software										
-Average salary 50K *335 FTE .1 hours/week		S	1742	\$ 25		\$43,550	1742	\$ 25		\$43,550
Totals					\$ 985,914	\$ 1,198,056			\$ 1,159,045	\$ 860,856

Town of Andover Strategic Technology Plan Proposed Costs by Year			Year 5			
	Annual	Savings	Unit		Total	Potential
	Cost	Type	Units	Cost	Cost	Savings
I. Alignment of IT Organization Structure						
1. Alignment of IT Organization						
a. New CIO Position						
1) Salary	Y		1	\$ 123,806	\$ 123,806	
2) Benefits	Y		1	\$ 37,142	\$ 37,142	
b. Implement Std Help Desk Software	Y		1	\$ 4,000	\$ 4,000	
c. Additional GIS Staff Hours 52K 10hrs /week						
1) Wages	Y		520	\$ 29.26	\$ 15,217	
2) Benefits	Y		520	\$ 8.78	\$ 4,565	
<u>Cost Avoidance/ Savings</u>						
a. Increase IT Personnel efficiencies						
-Average salary 60K *17.5 FTE 2 hours/week		S	1820	\$ 30		\$54,600
b. Efficiencies from centralized Help Desk Support						
- Users ability to look up and access knowledgebase						
-Average salary 45K *1,350 FTE .1 hours/week		S	7020	\$ 23		\$157,950
II Support Town-wide Infrastructure						
1. Security Strategy						
a. Implement Core Domain Strategy						
2. Servers and PCs						
a. Upgrade workstations/laptops	Y		500	\$ 650	\$ 325,000	
b. Upgrade Printers	Y		100	\$ 1,200	\$ 120,000	
c. Upgrade Servers	Y		5	\$ 15,000	\$ 75,000	
3. Virtualization Standardization						
<u>Cost Avoidance/ Savings</u>						
a. -Improve purchasing capabilities						
-Cost savings on workstations-10%		H	500	\$ 65		\$32,500
-Cost savings on printers-15%		H	100	\$ 180		\$18,000
-Cost savings on servers-10%		H	5	\$ 1,500		\$7,500
b. -Improve purchasing of supplies						
-Printer cartridges, other		H	800	\$ 10		\$8,000
c. -Minimize purchase of servers through Virtualization						
-Reduction of server purchases		H				
			3	\$ 15,000		\$ 45,000
III. Enhance Information Security & Compliance						
1. Document Standardized Security Policies						
2. Develop a Disaster Recovery Plan						
<u>Cost Avoidance/ Savings</u>						
a. -Securing information assets & maintaining compliance						
-Average salary 45K *1350 FTE .1 hours/month		S	1300	\$ 23		\$29,250

Town of Andover Strategic Technology Plan Proposed Costs by Year			Year 5			
	Annual	Savings	Unit		Total	Potential
	Cost	Type	Units	Cost	Cost	Savings
IV. Enhance Processes Through Technology						
1. Financial Management System						
a. Upgrade to MUNIS SQL Version						
1) Conversion services						
2) License upgrades						
3) Hardware and Server(s) upgrade						
b. Miscellaneous Billing and receipts						
1) Software						
2) Training						
3) Maintenance	Y		1	\$ 7,920	\$ 7,920	
c. Tax Collection Software						
1) Selection Project						
2) Software						
3) Training						
4) Maintenance	Y		1	\$ 12,375	\$ 12,375	
5) Conversion						
d. Increase MUNIS utilization						
1) Decentralized Purchasing						
2) Decentralized Budget Development						
3) Decentralized payroll input						
4) MUNIS HR						
e. Additional Financial MUNIS modules (Treasury, Project Accounting, Fixed Assets)						
1) Software						
2) Training						
3) Maintenance	Y		1	\$ 14,454	\$ 14,454	
4) Conversion						
f. Additional Payroll MUNIS modules (Applicant Tracking)						
1) Software						
2) Training						
3) Maintenance	Y		1	\$ 2,376	\$ 2,376	
g. Implement Microsoft BPOS	Y		1,350	\$ 120	\$ 162,000	
Cost Avoidance/ Savings						
a. Increase Billing efficiencies						
-Average salary 50K *20 FTE 1 hours/week		S	1040	\$ 25		\$26,000
b. Increase Tax processing and efficiencies						
- Repurpose IT Staff						
-Average salary 50K * 26 hours/week		S	1248	\$ 25		\$31,200
-Enhance Tax operations and efficiencies						
-Average salary 50K *20 FTE 1 hours/week		S	260	\$ 25		\$6,500
-Inability to produce tax bills		S				
c. Increase efficiencies through decentralization						
- Purchasing						

Town of Andover Strategic Technology Plan Proposed Costs by Year			Year 5			
	Annual	Savings	Unit		Total	Potential
	Cost	Type	Units	Cost	Cost	Savings
-Average salary 50K *100 FTE .25 hours/week		S	1300	\$ 25		\$32,500
- Budgeting						
-Average salary 50K *100 FTE .25 hours/month		S	325	\$ 25		\$8,125
- Payroll-time and Attendance						
-Average salary 50K *100 FTE .25 hours/week		S	1300	\$ 25		\$32,500
- Human Resources						
-Average salary 50K *25 FTE .25 hours/month		S	81.25	\$ 25		\$2,031
d. Increase efficiencies through additional modules						
- Treasury, Project Accounting, Fixed Assets)						
-Average salary 50K *50 FTE .25 hours/week		S	650	\$ 25		\$16,250
e. BPOS Cost avoidance and savings						
Eliminate replacement cost of Exchange servers		H				
Eliminate additional hard drive disk costs		H				
Eliminate Need for Disaster Recovery services		H				
Eliminate Need for maintenance of backup/DR services						
-Average salary 60K * 1 FTE, 2 hours/week		S	416	\$ 30		\$12,480
Eliminate Anti-Virus/Spam/Phishing services on servers		H				
Eliminate cost of purchasing a SharePoint server		H				
Eliminate Exchange 2010 user licensing		H				
Eliminate Exchange 2010 server licensing		H				
Eliminate purchase of Sharepoint user licenses		H				
Reduce IT Personnel maintenance of Email Server						
-Average salary 60K * 4 FTE, 2 hours/week		S	416	\$ 30		\$12,480
Reduce IT Personnel maintenance of SharePoint Server						
-Average salary 60K * 4 FTE, 2 hours/week		S	416	\$ 30		\$12,480
Reduce IT Personnel help desk support of Email system						
-Average salary 60K * 4 FTE, 4 hours/week		S	832	\$ 30		\$24,960
-Microsoft provides 24/7 email support		S				
Increase efficiencies for searching of documents						
-Average salary 45K * 1350 FTE, .1 hours/week		S	7020	\$ 23		\$157,950
V. Promote Knowledge and Understanding						
1. End-user training program	Y		1	\$ 25,000	\$ 25,000	
2. IT Staff Technical training	Y		5	\$ 5,000	\$ 25,000	
3. Certification and maintenance	Y		3	\$ 8,000	\$ 24,000	
<u>Cost Avoidance/ Savings</u>						
a. Increase efficiencies with software						
-Average salary 45K *250 FTE .1 hours/week		S	1300	\$ 23		\$29,250
-Average salary 60K *17.5 FTE 1 hours/week		S	910	\$ 30		\$27,300

Town of Andover Strategic Technology Plan Proposed Costs by Year			Year 5			
	Annual	Savings	Unit		Total	Potential
	Cost	Type	Units	Cost	Cost	Savings
VI. Expand Governmental Services						
1. MUNIS Citizen Self-Serve						
a. Software						
b. Training						
c. Maintenance	Y		1	\$ 5,400	\$ 5,400	
2. MUNIS Business/Vendor Self-Serve						
a. Software			1	\$ 21,945	\$ 21,945	
b. Training			1	\$ 1,275	\$ 1,275	
c. Maintenance	Y		1	\$ 4,158	\$ 4,158	
3. MUNIS Employee Self-Serve						
a. Software						
b. Training						
c. Maintenance	Y		1	\$ 4,554	\$ 4,554	
<u>Cost Avoidance/ Savings</u>						
a. Reduce phone calls with Citizen Self Serve software						
-Average salary 50K *100 FTE .25 hours/week		S	1300	\$ 25		\$32,500
b. Reduce phone calls with Vendor Self Serve software						
-Average salary 50K *50 vendors .1 hours/week		S	260	\$ 25		\$6,500
c. Reduce phone calls with Employee Self Serve software						
-Average salary 50K *335 FTE .1 hours/week		S	1742	\$ 25		\$43,550
Totals					\$ 1,015,187	\$ 867,356

IV. Findings and Recommendations

Overview

As part of the information gathering process to develop the technology plan, the project team interviewed personnel from the various departments within the Town including the Andover Public Schools. Additionally, we interviewed members of the Town's Board of Selectman and the School Committee. To better understand the functional and business issues confronting the Town from an operational and technology perspective, the project team tracked information obtained during focus group sessions, individual interviews and departmental discussions. This information was then analyzed to determine the common characteristics of Andover's needs and requirements.

Common themes raised by various groups included:

- A solid technology infrastructure presently exists.
- Access to information is adequate, but can be improved.
- User training on existing applications needs to be enhanced to take advantage of additional software functional capabilities.
- Communication between departments needs to be enhanced.
- Document storage standards need to be developed.
- Key applications were underutilized causing departments to track and monitor information manually and independently.
- Departments recognize the need to provide “self-service” alternatives to other departments and the public.

These items were repeatedly brought up as issues detrimental to a productive and efficient work environment, and considered barriers to providing the level of consistently high-quality services demanded by many departments and residents.

Commendations

Although this report will identify a number of findings and recommendations as part of the technology plan, there are a number of very positive and successful initiatives that have had significant positive impact on the overall technology operations within Andover. Outlined below are some of these initiatives:

1. The Municipal Area Network (MAN) is a fiber optic network that links the Town's main buildings (Town, School, Public Safety and Library IT operations) together. This infrastructure can allow all departments to access and share applications and information. Andover should be commended for having the foresight and resources to invest in such an important foundation.
2. Andover has made a significant investment in their Geographical Information System (GIS). There are over 50 different layers of information contained in this system. The information within GIS is well maintained and should be integrated into other key applications.

IV. Findings and Recommendations

3. The IT Departments within Andover have done a good job of providing a reliable network and infrastructure for their respective user communities.
4. The IT Departments have taken measures to secure the information assets of their respective departments.
5. The MUNIS financial system is a stable and solid financial system for Andover to grow and evolve with. Deployment of this software will further enhance internal processes and controls for the Town.
6. APS has selected and is expanding the use of the X2 Student Information system to standardize student information. This system will be used as a foundation to track all student related information.
7. APS has done a good job of automating the School Lunch program through the use of the Meal Magic system. Parents can prepay meals online, review child's account and view/monitor their children's diets.
8. Although there are a number of manual processes and procedures related to purchase orders, budgeting and other types of financial transactions, Andover staff have done a good job of ensuring that these processes are well controlled. Staff members work hard to make sure that all financial transactions are processed accurately, expeditiously and correctly.

IV. Findings and Recommendations

Report Format

We have grouped our findings and recommendations into the following strategies:

- A. Alignment of IT Organizational Structures
- B. Support the Town-Wide Infrastructure.
- C. Enhance Information Security and Compliance.
- D. Reshape and Enhance Processes Through Information Technology.
- E. Promote Knowledge and Understanding of Town-wide Technologies.
- F. Expand Governmental Services Through Information Technology

For each strategy, we will discuss the critical issues involved and provide specific recommendations.

IV. A –Alignment of IT Organizational Structures

Findings:

1. Andover has Four Different IT Departments Independently Supporting Various IT Functions And Departments:
 - a. Town IT Department
 - i. Supports approximately 150 workstations and 125 users
 - ii. Information System Manager reports to the Director of Finance and Budget
 - iii. Supports the Town Offices, Water Treatment Plant, Highway and Water Divisions, Plants and Facilities
 - iv. 4.2 total FTEs within IT Department
 - 2.2 FTE - responsible for Unix, OpenVMS and reporting systems (MUNIS and ADMINS applications)
 - 1 FTE - supports network and Infrastructure
 - 1 FTE - supports PCs
 - v. Additional .6 FTE (24 hrs per week) – GIS Coordinator (not within IT Department budget)
 - Reports to DPW
 - vi. Database administration for the MUNIS system is supplemented by a contract with MUNIS for OSDBA (Operating System Database Administrator) support
 - vii. Based on individual interviews, concerns exist over current IT practices
 - Responses to requests are unclear and/or unacceptable
 - Inability to connect non-IT controlled laptops and/or printers to network due to “security concerns”
 - IT Department will only provide an email account if a PC is dedicated to a person
 - Plant & Facilities utilize School’s IT Department for assistance with their IT initiatives
 - Users have developed “work-arounds” in order to not engage IT Department
 - Role and responsibilities of IT within Town are unclear
 - Users do not understand how to utilize the Town’s IT Department
 - Who is responsible for purchasing software or hardware?
 - Limited support of Departmental applications
 - Who should drive implementation of software application capabilities?
 - MUNIS, LaserFiche, GIS

IV. A –Alignment of IT Organizational Structures

viii. Lack of centralized control of IT purchases

- Departments can purchase their own software and/or hardware
 - Printer/scanner/fax devices
 - SoftRight financial application
 - No one oversees or controls purchases

ix. Prioritization of IT projects are unclear

- Departments are unaware of any master plan for hardware/software initiatives
 - IT Department decides when and how technology upgrades occur
 - Upgrades to Microsoft Vista caused application issues (LaserFiche, Patriot system)
 - Upgrades to MS-Office 2007

x. There are no metrics to assess the performance of IT Department personnel

b. Andover Public Schools IT Department

- i. Supports approximately 6,100 students, 1,050 adult users and 2,500 computers
- ii. Technology Director reports to the Superintendent
- iii. Supports Central School Administration, all schools, and partially supports Plant & Facilities
 - 10 total FTEs (excludes 6 FTEs - Media Specialists)
 - 1 FTE – Director
 - .83 FTE – Senior Secretary
 - 2 FTE - application specialists
 - 2 FTE - network administration
 - 1 FTE - help desk support
 - 3 FTE – school support

IV. A –Alignment of IT Organizational Structures

iv. Based on individual interviews, perception of School IT is varied

- Responses for support can take too long – re-mapping of laptops
- “Too much security”
 - Inability to connect personal devices (laptops) to network
 - Inability to access various websites such as Wikipedia, social networking sites
 - One-size doesn’t fit all –ex. Security needs for high school teachers and elementary school teachers are different
- Not enough staffing - More Tech resources are needed for teachers
- Old technology – 8 year old workstations and 9 year old laptops
- Concerns with video streaming
- Lack of coordination with PTO/Equipment Donations (smart boards, printers, etc.)

c. Public Safety IT Department

- i. Supports 130 workstations
- ii. Public Safety Network Administrator reports to the Police Chief
- iii. Supports Police and Fire
- iv. 1.5 FTEs
 - 1 FTE – Network Administrator/Application Support
 - .5 FTE – PC Support Technician
- v. Based on individual interviews, concerns exist over current IT practices
 - Only a limited number of personnel can access emails remotely
 - Limits the size of an email box to 30 MB
 - Dispatch users can not access Internet
 - Users need training on Pamet system, which is controlled by IT Department
- vi. IT Department responsible for centralized IT purchases
 - Fire Department attempted a work-around that caused issues for everyone
- vii. Prioritization of IT projects are unclear
 - IT Department directs IT initiatives without a vetting process

IV. A –Alignment of IT Organizational Structures

- Departments are unaware of any master plan for hardware/software initiatives

d. Memorial Hall Library IT Department

- i. Support approximately 60 users and 90 workstations
- ii. Library Network Administrator Reports to the Library Director
- iii. Supports the patrons and library administration needs
- iv. 2 total FTEs
 - 1 FTE – Network Administrator
 - 1 FTE – System Administrator, PC Support, Application Support
- v. Based on individual interviews, IT Department does a good job of providing support
 - Supports Library staff well
 - Supports Library patrons very well
- vi. IT Department responsible for centralized IT purchases
- vii. IT supports a number of email clients (Outlook, Outlook express, Eudora)
 - Impacts ability to provide training and support

IV. A –Alignment of IT Organizational Structures

2. Current IT Organizational Structure Hinders Integration and Communication with all Related IT Departments and Personnel

- a. Current structure separates hardware, software and support services within each IT Department
 - i. Each IT Department has their own network administrator, PC support and applications support personnel
 - ii. Four IT Directors report to four different supervisors that have limited IT knowledge
- b. Very little sharing of IT resources and/or knowledge
 - i. The focus group sessions of this project was the only time all IT personnel have ever been altogether
 - ii. Public Safety does get some support from Town's network administrator
 - iii. Town has worked with the School to provide access to MUNIS via intranet queries
 - iv. Most of the time each IT Department works, supports and reacts independently
- c. Current structure inhibits IT oversight, coordination and direction
 - i. Lack of hardware standards
 - Town and School are using different virtual server technologies
 - ii. Lack of software standards
 - Presently there are four separate/independent Microsoft Exchange email systems
 - Some IT Departments have and use "help desk" software; others do not
 - iii. Lack of documentation standards
 - No standard IT security policies, procedures or protocols
 - iv. Lack of integration between software applications
 - Although a sophisticated GIS system is in place there is a lack of integrating it into other applications
 - Fire Departments needs access to GIS – Fire hydrant layer; does not have access and does not know fire hydrant layer exists
- d. Information technologies are not being used as an enabler of business initiatives
 - i. Very reactive not proactive
 - ii. No one is directing IT initiatives and linking to business needs or strategies

IV. A –Alignment of IT Organizational Structures

Recommendations:

1. Create a New IT Organizational Structure that Will Enhance the Oversight, Coordination and Direction for all IT Initiatives and Services (**See Proposed IT Organization Structure)
 - a. Create a new position and hire a new Chief Information Officer for Andover
 - i. Position to oversee all IT related services for Andover (hardware, software, support)
 - ii. Place all IT related positions under the CIO
 - iii. This new position should report directly to the Town Manager
 - Should have secondary reporting lines to Superintendent, Police Chief, Library Director
 - b. Reclassify IT positions according to new organization chart
 - i. New structure promotes and takes advantage of current staffing levels
 - No terminations, just re-alignment of duties
 - c. Realign Geographical Information System (GIS) and the GIS position into the new IT structure
 - i. The GIS coordinator should report to the Application Support Manager
 - ii. All GIS activities should be coordinated through the IT Department
 - iii. GIS should be viewed as an enabler technology and integrated with Andover's software applications
 - d. Create environment where IT provides internal consultants to all Departments
 - i. IT Department will be more responsive and better able to serve users
 - ii. IT Department looks to integrate and consolidate IT activities, has a common vision and direction
 - iii. Instead of Islands of Information, create global access to information (where appropriate)
 - e. Develop roles, responsibilities and performance metrics for all personnel within the IT Department
 - i. Document and communicate with each IT person
 - ii. Provide training for IT Department personnel
 - iii. Develop cross-training activities for personnel

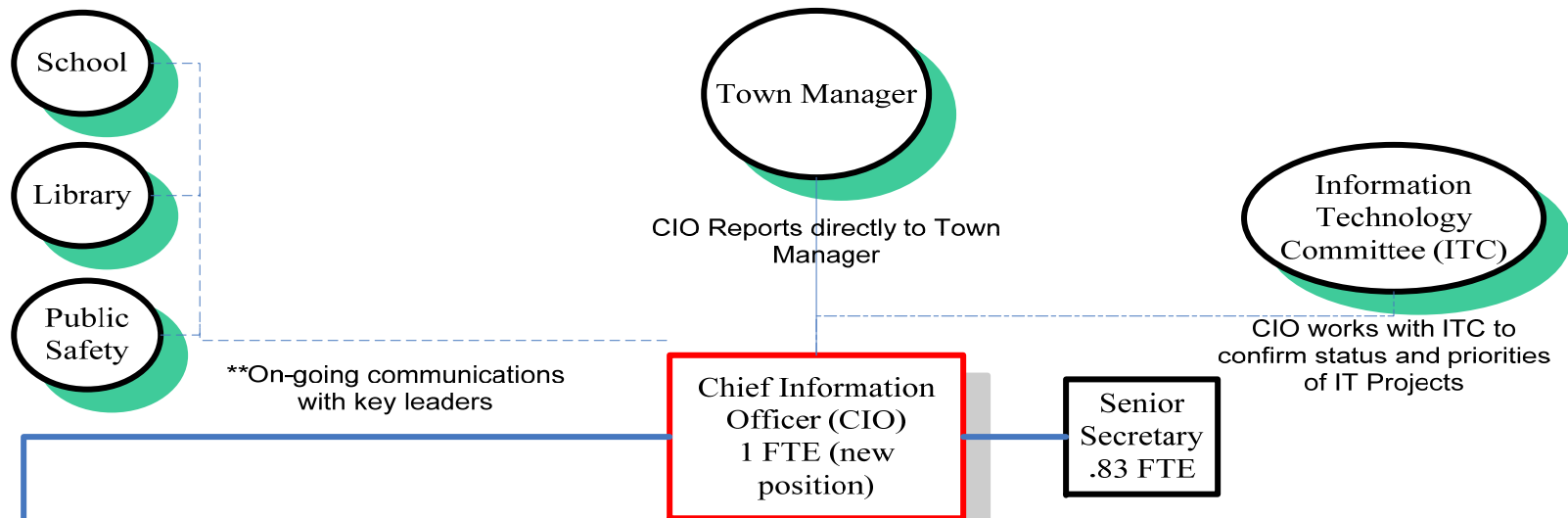
IV. A –Alignment of IT Organizational Structures

- f. Create an IT Steering Committee
 - i. Identify personnel from key departments to participate on Committee
 - Members must represent key functional areas of Andover
 - Town, School, Public Safety and Library
 - ii. CIO must be a member of the Committee
 - iii. Committee will help to prioritize project initiatives
 - iv. Committee member goals to communicate status to the committee and back to their respective department
 - v. Promote consistent oversight for selection, purchase and implementation of technologies
 - vi. Monitor start and completion of key IT projects
 - vii. Develop standard operating policies and procedures for employees to follow

- g. Create Service Level Agreements (SLAs) between Town, School, Library and Public Safety
 - i. Identify technology standards
 - Security, hardware, software, telecommunications, email, internet
 - ii. Confirm project review and assessment approach
 - iii. Network operations and service
 - iv. Backup, restoration and business continuity plans
 - v. Definition and prioritization of support services
 - Mission critical
 - Moderate priority
 - Low priority
 - vi. Identify how new IT Department will handle Conflict resolution

IV. A –Alignment of IT Organizational Structures

2. Implement the Following IT Structure



**Please Note: The IT personnel identified below are the current IT staff located within the Town of Andover

Network Manager 1 FTE	<u>Network Administration</u>					
	Server Support	Network User Setup	Network Security	Network Configuration	Other Network Support	
	5.00 FTE					

Help Desk Manager 1 FTE	<u>IT Support</u>				
	Help Desk	Hardware Break/Fix	Software Installations	Training	Other Support
	5.00 FTE				

Application Support Manager 1 FTE	<u>Application Support</u>							
	MUNIS	ADMINS	X2	Public Safety	Library	Website	GIS	Other Applications
	5.05 FTE							

IV. A –Alignment of IT Organizational Structures

Benefits

- Alignment of business strategies and needs with technologies
- Ability to provide consistent support throughout Andover
- Ability to promote organization-wide standards
- Greater cross-training opportunities
- Ability to prioritize projects/initiatives entity-wide instead of individual priorities within departments
- Increased buying power for vendor discounts

Organizational Impact/Risk

- Level of difficulty to implement is High due to:
 - Different cultures
 - Different business approaches
 - Different unions, salaries and benefits structures
- Cost/Risk of doing nothing is High due to:
 - Inability to share resources, hardware, software
 - Lack of shared standards

Finding:

1. A Centralized IT Support Team Does Not Exist
 - a. Each IT group performs IT support independently of each other
 - b. Some IT departments use help desk tracking software – APS uses School Dude
 - c. Other departments track information manually – this inhibits the ability to create a knowledge base of support information
 - d. Independent IT support teams are inefficient
 - i. Organization wide trends are not obvious
 - ii. Problems already solved by one area may consume resources in another area
 - iii. Users with a specific expertise are only available to one group
 - iv. Resources are fragmented among the various groups

IV. A –Alignment of IT Organizational Structures

Recommendations:

1. Create An Andover-Wide Central IT Support Team
 - a. The IT Support Team would be responsible for tracking, prioritizing, and resolving all support calls
 - b. The IT Support Team would provide a larger resource pool to share resources when needed
2. Implement a Standard “Help Desk Tracking” Application for the IT Support Team
 - a. The software will allow:
 - i. The help desk to run in a structured manner
 - ii. Prioritize, track, and close support calls
 - iii. Generate metrics for help desk calls and resolutions
 - iv. Document trends and provide help for resolving repeat problems
 - b. Evaluate and implement the “School Dude” software to determine whether it will support the centralized help desk
 - c. Perform a structured software selection for help desk software if “School Dude” will not adequately support the help desk

Benefits

- Help desk support will be more structured and agile
- Users can initiate and track the progress of their “help desk” tickets

Organizational Impact/Risk

- Level of difficulty to implement is Low due to:
 - Browser based ASP solution; no additional hardware or software is required
 - Software is already utilized by a couple of Departments
- Cost/Risk of doing nothing is Medium due to:
 - Inefficiencies due to inability to create internal knowledge base
 - IT Department will not be able to learn from prior issues

IV. B - Support the Town-Wide Infrastructure

Finding:

1. Lack of Global IT Strategy Impacts Ability to Share Applications and Information

- a. Each IT Department has independently setup their own security strategies
 - i. Sharing of applications or network “folder shares” has been created by implementing separate and independent “one way trusts” within each IT Department
 - Very inefficient and cumbersome process of handling security
 - Each IT Department has their own security model resulting in the need to build security/firewall “work-arounds”
 - ii. Each time a new application or folder needs to be shared, additional security/firewall “work-arounds” must be created with each IT Department
- b. Even in an integrated domain environment, certain applications and/or data needs to be protected and secured
 - i. Public Safety Pamet software system
 - ii. Tax Collector ADMINS system

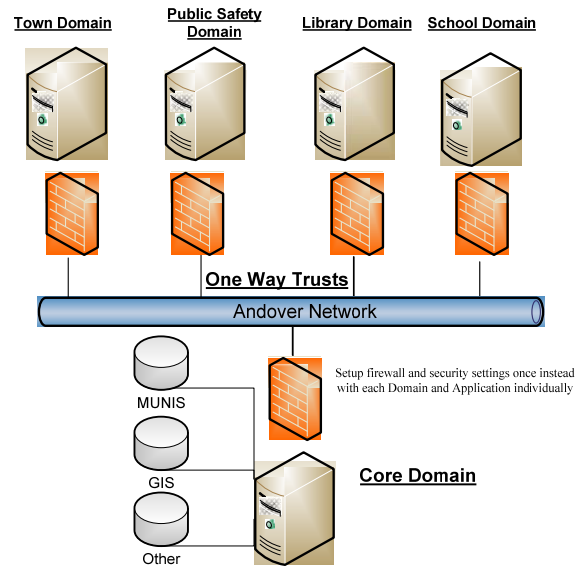
Recommendations:

1. Implement A Core Domain Strategy Where Applications and Information Can be Shared

- a. Create a single Core Domain
 - i. Build a network Trust between each domain and the Core domain
 - Configure security and firewall once
 - ii. Deploy shared services to Core domain
 - Once deployed, services are immediately shared with appropriate network users

IV. B - Support the Town-Wide Infrastructure

iii. Town IT Department has started to review, evaluate and configure core domain



Benefits

- Simplifies security and firewall settings
- Improves overall security
- Minimizes ongoing maintenance and administration of domains trusts
- Promotes sharing of applications and folders/documents

Organizational Impact/Risk

- Level of difficulty to implement is Moderate due to:
 - Additional hardware and security settings must be developed
 - Some software applications may need to be moved to a separate server
- Cost/Risk of doing nothing is Moderate due to:
 - Inefficiencies due to resolving security and access to each domain individually
 - Ongoing “holes” in firewall could impact overall security within the Town

IV. B - Support the Town-Wide Infrastructure

Findings:

1. Andover Has Outdated Hardware And Supports Many Different Models Of Hardware
 - a. Computers/workstations
 - i. 73% of APS workstations are four years or older
 - ii. APS has 8 and 9 year old hardware at the Woodhill/High Plain schools
 - iii. Public safety has computers over 5 years old
 - PCs are kept and used by people that don't require a lot of computer processing
 - b. Older hardware is more costly to support:
 - i. Incompatibilities
 - ii. Higher risk of failure
 - iii. Not supported under warranty
 - c. Older hardware is limiting:
 - i. Will not support newer applications
 - ii. Slower processing speeds
 - d. Printers
 - i. The Town supports a variety of printers
 - 7 different printer manufacturers
 - Over 20 different models
 - Both inkjet and laser
 - ii. APS also supports a variety of printers
 - 14 different printer manufacturers
 - Over 100 different models
 - Many inkjet printers
 - Inkjet printer cartridges are very costly

IV. B - Support the Town-Wide Infrastructure

- e. There is a lack of printer standards which impacts cost and support
 - i. Increases maintenance costs
 - ii. Increases support calls
 - iii. Requires too many different printer supplies (toners & cartridges)
 - iv. Difficult to implement a replacement program

2. Andover Supports Multiple Versions Of Operating Systems And Software Applications

- a. Town IT Department supports:
 - i. Six versions of Adobe Acrobat
 - ii. Three versions of AutoCAD
 - iii. Windows Internet Explorer V7 and V8
- b. APS IT Department supports:
 - i. Two different versions of Windows OS (2000 and XP Pro)
 - ii. Five different versions of MS Office (97, 2000, 2003, XP, and 2007)
- c. Public Safety IT Department supports three different versions of MS Windows (2000, XP Pro, and Vista)
- d. Maintaining and supporting multiple software versions causes:
 - i. Compatibility issues
 - ii. Conflicts
 - iii. User confusion

IV. B - Support the Town-Wide Infrastructure

3. Andover Servers Are Running Different Network Operating Systems And Virtualization Software

- a. The Town IT group supports nine physical servers
 - i. Replaces one server per year
 - ii. Utilizes Hyper-V for server virtualization
 - iii. Two virtualized servers
 - iv. Supports Windows Server 2003 and Windows Server 2007
- b. The APS maintains nine physical servers
 - i. Utilizes Virtual Iron for server virtualization
 - ii. Thirty virtualized servers
 - iii. Supports Windows Server 2000 and Windows Server 2003
- c. Public Safety IT supports six physical servers
 - i. All running Windows Server 2003
 - ii. No virtualization
- d. The Library IT group supports seven physical servers
 - i. Most servers are running Windows Server 2003
 - ii. Two servers are running Windows Server 2000
 - iii. No virtualization

IV. B - Support the Town-Wide Infrastructure

Recommendations:

1. Develop A Technology Maintenance, Replacement And Deployment Plan For Printers And Workstations
 - a. Computers/workstations/laptops
 - i. Develop a continuous replacement program for computers/workstations/laptops
 - ii. Develop standards for new workstations based on computer needs and requirements
 - Processing speeds
 - RAM and Hard drive requirements
 - Operating systems
 - Application software
 - iii. Develop procedures for distributing new workstations and discarding or redeploying old workstations
 - iv. Establish a reasonable lifecycle (4-5yrs)
 - b. Printers
 - i. Develop a continuous replacement program for printers
 - This should be based on real “need”
 - ii. Develop standards for new printers:
 - Printer Type
 - Laser vs. Inkjet
 - Network vs. Standalone
 - Color/monochrome
 - Print speed
 - Volume capacity
 - Print resolution and features
 - iii. Develop a new printer deployment plan
 - iv. Utilize networked printers when possible
 - v. Eliminate non-essential printers

IV. B - Support the Town-Wide Infrastructure

- vi. Replace inkjet printers with laser printers when possible
 - Laser printers typically have a lower cost per page due to cost of inkjet cartridges
 - Laser toner is not susceptible to drying out like ink

2. Develop A Technology Maintenance, Replacement And Deployment Plan For Servers

- a. Develop a replacement plan to ensure server hardware is kept current
- b. Develop standards for new servers based on computer needs and requirements
 - i. Number of processors
 - ii. Storage requirements
 - iii. Network operating systems

3. Standardize On A Server Virtualization Software Solution

- a. Develop a plan to evaluate virtualization software solutions
- b. Determine how to deploy the common virtualization solution
- c. Server virtualization provides the capability of running multiple “virtual” servers on a single physical while sharing the resources of the single machine across the environment
 - i. The benefits of server virtualization are:
 - Reduced physical infrastructure of data center
 - Operational flexibility
 - Reduces the number of physical servers requiring support

Benefits

- Standardization of hardware will make support more efficient
- Reduces inventory needs for parts, toner, peripherals
- Reduces the number of platforms that are supported
- New software/hardware provides stability
- Reduce downtime due to newer hardware/software

IV. B - Support the Town-Wide Infrastructure

Organizational Impact/Risk

- Level of difficulty to implement is Low-Moderate due to:
 - IT will need to develop and deploy Town-Wide standards that will be adhered to
 - Need to get buy-in from all Town of Andover Departments
 - Both the Town and School have already implemented their own versions of virtual servers
- Cost/Risk of doing nothing is High due to:
 - Inefficiencies due to so many PC printer standards
 - Town can save money on inkjet cartridges

IV. C - Enhance Information Security and Compliance

Findings:

1. There Are Limited Standardized Documented Security Policies And Procedures
 - a. During our interviews the various IT departments have different policies, procedures, and protocols related to security
 - b. Users were held back due to “security” concerns
 - c. Peripherals are not allowed to attach to the network due to “security” concerns
 - d. Documented policies and procedures do not exist for certain IT groups
2. A Complete, Documented And Tested Disaster Recovery Plan Does Not Exist
 - a. In the event of a disaster, Andover is at risk for:
 - i. Critical applications are at risk including:
 - ADMINS, MUNIS, Email, Pamet, etc.
 - ii. Loss of data of critical systems
 - iii. Inability to process transactions
 - iv. Inability to perform normal operations

Recommendations

1. Develop Information Security Standards – Typical Elements Of Information Standards Include:
 - a. Define security accountability standards
 - i. Define Roles/Responsibilities of:
 - IT department, Management, Users
 - ii. Define various classes of data:
 - General, internal, external, confidential
 - b. Perform a Threat Assessment
 - i. Review approaches to security
 - ii. Assesses existence of risks

IV. C - Enhance Information Security and Compliance

- iii. Determine likelihood and impact of threats
- c. Create Policies, Procedures, and Standards including:
 - i. Confidentiality of data
 - ii. Security measures utilized to protect data
 - iii. Who can access data
 - iv. Appropriate penalties for abuse
- d. Develop an education and communication plan to provide:
 - i. Training on Information security awareness,
 - ii. Training to users on practices and technologies
- 2. Develop A Business Continuity/Disaster Recovery Plan – Typical Elements Of The Plan Include:
 - a. Prioritization of systems for recovery
 - b. Assignment of staff roles and responsibilities
 - c. Inventory of systems and data maintained on the various servers
 - d. Hardware, operating system, and application configuration data
 - e. Vendor contacts for mission critical systems
 - f. Location of backup media and software
 - g. Potential off-site recovery locations

IV. C - Enhance Information Security and Compliance

Benefits

- Information assets will be more secure
- Users will be more aware of security threats

Organizational Impact/Risk

- Level of difficulty to implement is Moderate-High due to:
 - Creating a unified Business Continuity\Disaster Recovery plan will take significant resources
 - All Town Departments will be required to identify their application software priorities and match them up with the full Town requirements
- Cost/Risk of doing nothing is High due to:
 - The Town is at significant risk if no DR plan is developed
 - Would impact revenue stream – Tax Collector’s ADMINs system
 - Would impact ability to process payroll and pay bills – MUNIS
 - Would cause public safety issues without CAD and RMS access to Pamet

Finding:

1. A Structured Technology Selection Process Does Not Exist

- a. Many technology decisions have been predicated on the needs and requirements of individual departments
 - i. Departments have pursued their own technology solutions
 - Independent purchases of hardware – laptops, scanners/printers
 - Independent purchases of Software – SoftRight, QuickBooks, School Dude, LaserFiche
 - ii. Inconsistent approach and evaluation of hardware and/or software
 - iii. IT Department has not been involved in selection process which has caused issues, including:
 - Systems that do not satisfy all critical departmental needs
 - Incompatibilities with existing hardware or networking environments
 - Inability to effectively integrate with other applications or data sources
 - Data conversion issues
 - Limited user training
 - Increased technical support requirements for the IT Department
 - Lack of “ownership” of implemented systems by departments
 - iv. No formal vetting process exists to identify and select the “best” technology solutions for the Andover community
 - Users don’t see the need to discuss IT related purchases with the IT Department

Recommendation:

1. Implement a Structured Technology Selection Methodology

- a. A structured approach will help to standardize an approach and analyze requirements across Departments
 - i. Examine functional requirements within and between departments
 - ii. Confirm computer system and resource requirements
 - iii. Selection of technology becomes a group decision, increasing user “buy-in”

IV. D – Reshape and Enhance Processes Through Information Technology

- iv. Ownership of the system can be identified and determined upfront
- b. A Software Selection committee should be formed for each technology selection project
 - i. Ensures a vetting process and allows people to openly discuss issues, problems and concerns
 - ii. Helps to identify owners of the technology (not always the IT Department)
 - iii. IT Department must be included to ensure IT standards are met
- c. Approach should include the following tasks:
 - i. Identify user needs and requirements
 - ii. Determine technical requirements
 - iii. Develop Request For Proposal
 - iv. Conduct software “Test Drives”
 - Identify operational scenarios and new processes of how the application needs to work
 - Provide scenarios to vendor prior to “test drive” so they can be prepared
 - Invite user community to review and evaluate technology solutions
- d. The purchase of the new Permitting application should utilize this methodology
 - i. Identify all areas within the Town that utilize permits
- e. Create a selection committee responsible for overseeing and selecting technology

Benefits

- Promotes more thorough investigation of alternatives
- Allows Andover community to integrate process issues with system requirements
- Collaborative approach incorporates cross-departmental issues
- Allows for more informed and timely decision making

Organizational Impact/Risk

- Level of difficulty to implement is Low due to:
 - Available standards exist on-line
 - Can take advantage of outside consultants if required
- Cost/Risk of doing nothing is Medium due to:
 - Lowers risk to the organization
 - Helps to ensure the right solution was selected
 - Helps to make sure that the solution can be integrated appropriately

Findings:

1. The Town Has Non-Integrated Financial Systems
 - a. Key financial processes such as general ledger, procurement, and revenue collections use a variety of software applications
 - b. This situation forces a large number of inefficient manual processes:
 - i. Manually recorded transactions across systems
 - ii. Duplicate information contained in multiple systems
 - iii. Reconciliation of data to ensure systems are in balance
2. The Town has Aging Customized Systems for Key Processes (Revenue Billings, Collections and Accounts Receivable) Using the ADMINS Database
 - a. The ADMINS software is a character based system
 - b. The ADMINS OpenVMS platform is obsolete
 - c. Access to the ADMINS applications is limited to a few departments
 - d. Limited support
 - i. Presently Requires internal support (1.2 FTE) for ADMINS support
 - ii. Limited number of external support personnel are available – not used by Town IT Department
 - e. Requires IT resources to customize system

IV. D – Reshape and Enhance Processes Through Information Technology

- i. Must maintain programming standards
 - Design, development, and testing environments
- f. Limited ability to share enhancements/modifications with other ADMINS users
- g. Software maintenance does not include changes/modifications to functionality
- h. Users do not have access to timely information
- i. Closing cycle of ADMINS impacts timeliness of manual postings into MUNIS
 - i. Cash receipts/revenue cycle can take from 1 ½ - 2 months to be posted into MUNIS
 - ii. Users keep subsystems in Excel or manually
 - iii. There are both system and process issues
- j. ADMINS requires separate maintenance for security solutions
 - i. ADMINS is not Active Directory aware – does not integrate with MS Windows Security

Recommendations:

1. Replace Customized ADMINS Systems with Commercial off-the-Shelf Software Solutions
 - a. Prioritize modules within ADMINS for replacement
 - b. Consider integrated software solutions
2. Perform a Structured Software Selection Process for Replacement of the Tax Billing/Excise and Collection Software System
 - a. Consider the MUNIS application due to the ability to fully integrate with the financial management system
 - b. Consider other vendors with integrated assessment/collection software

IV. D – Reshape and Enhance Processes Through Information Technology

3. Evaluate and Implement the MUNIS General Billing, Miscellaneous Receipts and Account Receivables Modules

- a. Eliminates timing issue for recording of receipts
 - i. Receipts are initially recorded in the ADMINS system creating a lag time posting revenues in the MUNIS general ledger for 30-60 days
- b. Eliminates customized ADMINS receipts subsystem
- c. Fully integrated with the MUNIS general ledger

Benefits

- Provides timely and accurate information
- Minimizes the need to provide internal programming support
- Allows redeployment of IT resources from customized programming to roles in IT support
- Reduces manual tracking of information

Organizational Impact/Risk

- Level of difficulty to implement is Moderate due to:
 - Selection and implementation of off-the-shelf system
 - Software must be evaluated to confirm capabilities
 - Software must be adequately configured
- Cost/Risk of doing nothing is High due to:
 - System is old and outdated
 - Limited number of internal/external support resources
 - Critical system to the Town

Findings:

1. MUNIS Financial Application is Not Fully Utilized

- a. Very limited access - most employees do not have access
- b. This situation forces a large number of inefficient manual processes:
 - i. Purchase Requisitions
 - Manually created – typed via typewriter or created in Excel
 - Requisition is not automatically validated for budget by MUNIS, must be done manually
 - Purchased new financial system (Right Track) to track financial information in Public Works- System is not implemented yet
 - ii. Budget vs. Actual financial figures
 - All departments have their own set of financial records
 - Subsystems created in Excel, QuickBooks, etc...
 - iii. Human Resources is underutilized
 - The Human Resources department has not been keep apprised of enhancements to the software module
 - Minimal information is stored in the Human Resource
 - Information not stored in the Human Resources includes:
 - Critical service dates required for APS employees
 - Education and skill information
 - Certifications and licenses
 - iv. Payroll accruals/Time and attendance
 - Manually tracked or tracked in Excel
 - Reconciled as required
 - v. Duplicate information
 - IT department converts MUNIS data into MS Access for users to inquire on

IV. D – Reshape and Enhance Processes Through Information Technology

- c. The Town pays software maintenance fees for the purchase requisitions module but does not utilize the module

2. MUNIS Financial Application is not being Proactively Maintained

- a. The Town is on version 6.5 of MUNIS, the current version of MUNIS is 8.0
 - i. Does not include many of the latest software features
 - ii. Utilizes the Informix database
 - MUNIS recommends migrating to the SQL database
 - The majority of MUNIS users are on the SQL database version already
- b. MUNIS will retire the version in 2010
 - i. Limited support
 - ii. Limited enhancements/development

Recommendation:

1. Consider Evaluating Other Financial Software Solutions

- a. Evaluate functionality and costs of other financial systems
 - i. Need to make sure that MUNIS is a good long range and cost effective solution

2. Upgrade To The Latest Version Of MUNIS (assuming no other financial solution makes sense)

- a. Provides new features such as:
 - i. Dashboard capabilities through MS SharePoint
 - Allows customized views of important information
 - Tailored to user needs
 - ii. Improved security
 - Andover's version of MUNIS is user-based
 - Newer versions of MUNIS provide roles

IV. D – Reshape and Enhance Processes Through Information Technology

- Users are then added to appropriate roles
 - Security complexity is reduced
 - Security is increased by the ability to quickly make changes to the security structure
- iii. Improved workflow
 - Automatically notifies you of pending actions
 - Eliminates the need to use external email for receiving notifications
 - Allows updating client PCs from the server
- b. Allows Andover to migrate to SQL version
 - i. This is the current standard platform for MUNIS
 - ii. Positions Andover to easily migrate to the new release of the software

Benefits

- Keeps software current with continued support
- Provides access to features funded from maintenance costs
- Provides timely and accurate information
- Reduces manual tracking of information
- Reduces/eliminates paper

Recommendations:

1. Increase Utilization Of Existing MUNIS Modules
 - a. Provide Town/School-wide access to MUNIS
 - i. Implement appropriate security for inquiries, reporting and information
 - ii. Develop a MUNIS training approach
 - Identify appropriate users
 - Create training program
 - Provide access

IV. D – Reshape and Enhance Processes Through Information Technology

- b. Decentralize purchasing process
 - i. Utilize MUNIS on-line requisition module
 - ii. Takes advantage of on-line workflow and electronic sign-off capabilities
 - iii. Performs on-line budget checking
 - iv. Utilize on-line receiving feature
- c. Decentralize payroll time and attendance
 - i. Departments can input time and attendance directly into MUNIS
 - ii. Takes advantage of on-line workflow and electronic sign-off capabilities
 - iii. Eliminates the need for Excel subsystems
- d. Implement MUNIS Budgeting module
 - i. Integrates with Human Resources module in order to load current salary information
 - ii. Allows “what-if” scenarios for employee salaries and benefits
 - iii. Allows departments to enter their own budgets
 - iv. Provides ability to analyze accounts based on historical activity
- e. Re-Implement the MUNIS Human Resources module
 - i. Redefine Human Resource requirements for module
 - ii. Develop and execute deployment plan
 - iii. Populate information required for all groups (Town, APS, Library, and Public Safety)
 - iv. Organize HR information electronically
 - v. Track compensated time centrally
 - vi. Integrate the hiring process with the payroll process
 - vii. Track employee positions using MUNIS position control
 - viii. Implement the Personnel Action Forms feature of Human Resources
 - Automate s the management of Human Resource data
 - User-defined workflow rules for:

IV. D – Reshape and Enhance Processes Through Information Technology

- Hiring
- Termination
- Leaves, etc...

2. Evaluate And Implement Additional Integrated MUNIS Modules

a. Financials

i. Treasury Management

- Automates processing of files to and from bank
- Allocates interest earnings
- Provides reconciliation and cash forecasting functionality

ii. Project Accounting

- Provides tracking for multi-year projects and grants
- Tracks the grant application process

iii. Fixed Assets

- Integrates fixed asset reporting with the general ledger
- Provides asset tracking and depreciation
- Provides for Gasb34 reporting

b. Payroll and Human Resources

i. Applicant Tracking

- Allows customized online applications for job applicants
- Tracks applicant pool
- Provides on-line monitoring of job applicants
- Integrates with Human Resource module

Benefits

- Increase efficiency through reduction of duplicate data
- Empowers user with access to more timely information
- Provides timely information
- Reduces manual tracking of information
- Reduces/mitigates paper pushing

Organizational Impact/Risk

- Level of difficulty to implement is High due to:
 - Impacts all Town Departments
 - Requires commitment and resources to successfully implement new modules
- Cost/Risk of doing nothing is High due to:
 - Maintain current inefficiencies
 - Maintains manual intensive departmental activities
 - Need a software implementation champion who is held accountable

Findings:

1. There are Four Independent Microsoft Exchange Email Systems Within Andover
 - a. Each IT Department oversees and maintains their own Email System
 - i. Each installation has separate hardware, virus protection, spam filters and backup systems
 - ii. Each Email installation maintains a separate Post Office
 - Email address standard is configured to each email system
 - Email addresses can't be searched between email systems
 - Some users (eg, Facilities) need to have two separate email accounts in order to email with different user groups
 - iii. Town limits who can have an email account
 - Impacts some Facilities and Public Works employees
 - iv. Most Email Systems use Exchange 2003
 - Public Safety uses Exchange 2007 (64 bit)
 - Remote access (OWA) is available to a limited number of users
 - APS is looking to migrate to Exchange 2010
 - Other IT Departments have no defined plans to migrate to Exchange 2010
 - b. Mailbox sizes (Mail Store) have been growing exponentially
 - i. Problems exist with backup and restoration

IV. D – Reshape and Enhance Processes Through Information Technology

- Not enough space available for backup
- Mailbox sizes are constantly growing
- ii. Town and Public Safety have mailbox size limitations
 - Town – 100 MB or 250MB limitation if attended MS Outlook 2007 class
 - Public Safety – 30 MB limitation
 - APS – 55 MB limitation
- c. Security concerns exist with the Library MS Exchange implementation
 - i. Implemented unsecured POP3 accounts
 - ii. Mail server is on Library’s Web server
 - Current server provides dual roles
 - Since “Mail Store” is on Web server and externally assessable, this exposes the server to outside threats

2. Inconsistent Sharing of Documents

- a. Each IT Department oversees and maintains their own departmental security structure to share documents
 - i. Documents are typically locked up by department
 - ii. A “Shared Drive” exists, but is not accessible by everyone
 - Use of this drive is inconsistent
 - iii. Limited ability to globally search documents
 - Can only use name, data created/modified, time; complex searching is not available
 - iv. No document version control capabilities exist
 - Users assume the document on the network is the most current version
 - No check-in/out of documents functionality

3. Limited ability for Departments to Collaboration Within and/or Between Other Departments

- a. No collaboration tools currently exist within Town, School, Library or Public Safety
 - i. Information locked by departments
 - ii. Ability to communicate with other Departments is through email or phone

IV. D – Reshape and Enhance Processes Through Information Technology

iii. Tracking of internal information is difficult and typically a manual process

- Tracking of Departmental To-Do's
- Global Andover information and news
- HR Policies and procedures
- Training classes

Recommendations:

1. Consider Implementing “Cloud Based” Email, Document Management and Collaboration Tools

a. Implement an Internet based solution such as Microsoft Business Productivity Online Standard Suite (BPOS)

i. Leverages a standard suite of integrated software solutions

- Microsoft Exchange – Access to centralized email, calendar and contacts
- SharePoint – Manage and share documents, Check in/out documents, project work space, extranet collaboration, Blogs, Wikis, Internet/Intranet content management, site search, and forms capabilities
- Office Live Meeting – Ability to share applications/documents remotely, deliver on-line presentations, kick off a project, brainstorm ideas, edit files, and collaborate on whiteboards
- Office Communications – On-line presence confirmation, instant messaging, web conferencing

ii. Takes advantage of a Tier 1 infrastructure already in place

- 24x7x365 technical support
- CyberTrust Certification and SAS 70 compliant
- 99.9 % uptime SLA (Service Level Agreement)

iii. Eliminates need to purchase or maintain hardware or software

- No need to have servers or backup/restoration equipment
 - All maintenance provided by vendor
- Software upgrades are automatic and part of the service
 - Immediate upgrade to Exchange 2007 included in the implementation
 - Automatic upgrades from Exchange 2007 to Exchange 2010 and beyond

IV. D – Reshape and Enhance Processes Through Information Technology

- Integrated Microsoft Forefront – Anti-Virus and Anti-spam
- iv. Converge all four email systems into central email “Mail Store” repository
 - All email address standards would be the same
 - A user would require only one email address
 - One standard version of software implemented
- v. Expand and enhance current Mail and Content capabilities of Andover
 - Default email box is 5 GB, expandable to 25 GB
 - Share calendars, tasks, documents
 - Support for Windows Mobile® 6.0 devices and other Exchange ActiveSync® 12 devices
 - Remotely and securely access email account anywhere/anytime
- vi. Centrally manage and deploy a single email system
 - Setup standard security features for everyone
 - Centrally monitor and report on issues
- vii. Provide security and Disaster Recovery capabilities for email
 - Ability to synchronize with Microsoft Active Directory to maintain control and continue to manage user policies centrally
 - Provide secure Internet protocols including HTTPS and HTTP over SSL to access services
 - Provides redundant network architecture capable of disaster recovery

Benefits

- Opportunity to re-deploy IT resources to other projects
- Provides for an integrated Andover community email, content management and document storage solution
- Promotes sharing of: calendars, documents, forms
- Eliminates need to constantly purchase/upgrade hardware or software for email or collaboration solution
- Helps to maintain compliance with State regulations and eDiscovery requirements

Organizational Impact/Risk

- Level of difficulty to implement is Low due to:
 - Outside resources would migrate mail systems together
 - Off-the-shelf solution minimizes risk, exposure and costs
- Cost/Risk of doing nothing is Moderate due to:
 - Maintain current email inefficiencies
 - Must handle disaster recovery and business continuity issues internal
 - BPOS solution handles maintenance, backup and restoration capabilities
 - Helps establish and implement global email and document standards

Findings:

1. The Town has Made a Significant Investment in their Geographical Information System (GIS)
 - a. Town utilizes the industry standard ESRI system
 - b. The Town has over 50 GIS data layers
2. The GIS Software Is Underutilized
 - a. During our interviews it was clear users were not aware of the existing layers within the GIS system
 - b. Some departments do not understand what the GIS system is and how they might benefit from it
 - c. The GIS system is not integrated with other Andover applications including: Permitting, Pamet, etc.
3. On-Going Maintenance To The GIS Is Limited Due To Resources
 - a. GIS has a part-time support person (26hrs/week)
 - b. GIS data requires continual maintenance
 - c. GIS software is constantly updated requiring maintenance and training

Recommendations:

1. Resurrect The GIS Steering Committee
 - a. The group should be comprised of the major GIS users

IV. D – Reshape and Enhance Processes Through Information Technology

- b. The roles of this group are to:
 - i. Develop a GIS plan to serve as a roadmap,
 - ii. Prioritize GIS initiatives
 - iii. Develop and document operating standards
 - iv. Educate departments on how they can benefit from GIS use
 - v. Ensure the GIS software is maintained and the data is kept current
 - c. The GIS user group should be comprised of user departments and an IT department members
2. Develop An On-Going Maintenance/Enhancement Program For The GIS System
- a. Commit additional resources to maintaining the GIS system
 - i. Given the current investment and impact to the Town, the Town should proper support this technology
 - b. Develop a long-term plan to maintain and enhance the GIS system

Benefits

- Increases GIS utilization
- Transforms the GIS system into a Town-wide application
- Ensures that the GIS maintenance is aligned with the Town's needs
- Empowers user

Organizational Impact/Risk

- Level of difficulty to implement is Low due to:
 - System already exists
 - Current internal staff support GIS system
 - System can provide significant information to residents
- Cost/Risk of doing nothing is High due to:
 - Throw away the significant investment already made by the Town
 - Lose critical GIS information and ability to integrate information to other systems

Findings:

1. A Document Management and Digital Imaging Strategy Does Not Exist

- a. Town and School departments are struggling with the ongoing storage and retrieval of documents; both electronic and hard copy
 - i. Departments are storing their electronic documents on shared network drives
 - Documents are locked up by department, based on security
 - Unclear how to share documents globally
 - Limited ability to search document contents
- b. Town purchased LaserFiche software in order to digitally image and store documents
 - i. Some departments are using this solution
 - Predominately used by the Town Clerks office
 - Selectman Meeting Minutes
 - Other Meeting Minutes
 - Vital Statistics
 - ii. This is no structured approach to creating, deleting and/or storing documents
 - Document retention standards and practices are unclear
 - Document indexes are not well defined
 - Document images are being stored in folders on the network
 - Security of the folders needs to be reviewed
 - No disaster recovery plan has been developed
 - iii. No one is taking ownership of LaserFiche application
 - No overall responsibility has been assigned
 - iv. Lack of leadership for a digital imaging and document retention strategy
 - No one owns or is responsible for this issue

Recommendations:

1. Create a Document Management and Digital Imaging Strategy
 - a. Evaluate the capabilities of the LaserFiche software application
 - i. Identify the needs of key departments within the Town
 - ii. Determine if the LaserFiche software can meet the needs of the Town
 - Scalability
 - Integration with other applications
 - Search capabilities
 - Meets State regulations
 - iii. Determine if the LaserFiche application can be implemented for the all Town departments
 - If not, consider implementing Microsoft SharePoint to share documents and provide document retention capabilities
 - Solution can be integrated into current Andover network
 - Can implement customized document retention rules within software
 - Software could be configured for cloud computing
 - b. Develop document retention policy and procedures
 - i. Develop an inventory of all documents contained within Andover
 - Confirm document retention requirements using Massachusetts standards
 - Identify document retention gaps
 - ii. Develop document disposal policies and procedures
 - Confirm document retention requirements
 - Confirm no litigation exists with documents to be destroyed
 - Submit destruction request to the MA Supervisor of Public Record
 - Identify person(s) within Andover that will oversee and control destruction of documents
 - iii. Incorporate disaster recovery and business continuity standards
 - Confirm that documents can be recovered through a standard process

IV. D – Reshape and Enhance Processes Through Information Technology

- iv. Incorporate eDiscovery standards into the document retention policy and procedures
 - Incorporate an email retention/archive policy
 - Incorporate a litigation hold policy
- c. Identify person(s) responsible for implementing and overseeing strategy, policy and procedures
 - i. Person needs to be in a position where they can direct and control document retention process

Benefits

- Promotes standard approach to document retention
- Provides for an integrated Andover community application solution
- Promotes technology tools to mitigate hard copy storage of documents
- Maintains compliance to State regulations and eDiscovery requirements

Organizational Impact/Risk

- Level of difficulty to implement is Moderate due to:
 - Unified standards must be created for the Town
 - Someone needs to become the “owner” of the system and be held accountable for its success
- Cost/Risk of doing nothing is High due to:
 - Inability to maintain important Town wide information assets
 - Inability to comply with eDiscovery compliance standards

Finding:

1. The Town Has Implemented Several Different Data Analysis/Reporting Tools
 - a. Business Objects/Crystal Reports
 - i. Custom report writer currently supported by MUNIS
 - b. IQ Objects
 - i. MUNIS legacy report writer
 - ii. Town IT is migrating to Business Objects

IV. D – Reshape and Enhance Processes Through Information Technology

- c. MS Access
 - i. Town IT utilizes to create Financial reports
 - ii. Reports are stored on the internal network
 - iii. Limited users have access to these reports
- d. ADMINS
 - i. Utilized by Town IT for customized applications
 - ii. Proprietary to the ADMINS applications only

Recommendations:

1. Standardize Report Writing Tool With Business Objects
 - a. Integrated with the MUNIS system
 - i. Many views are already created for the MUNIS financial system
 - ii. MUNIS customers post reports on the MUNIS website
 - Other users have access to these reports
 - b. Industry standard report writing tool
 - i. Portable - works with many applications
 - ii. Training classes are readily available
 - iii. Support is easily obtainable
2. Develop A Training And Deployment Plan For Business Objects
 - a. Identify “power users” who will create reports
 - b. Determine process for prioritizing and deploying reports
 - c. Determine standards for developing, documenting and testing custom reports

Benefits

- Reduces the number of applications to support
- Custom reports can eliminate the need for subsystems

Organizational Impact/Risk

- Level of difficulty to implement is Moderate due to:
 - Development of Town wide standard
 - Additional training will be required
- Cost/Risk of doing nothing is Moderate due to:
 - Maintain current reporting inefficiencies

IV. E – Promote Knowledge and Understanding of Town-Wide Technologies

Finding:

1. Formalized Training Programs DO Not Exist for all Users and IT Support Staff

- a. Staff have received little or no user training
- b. Impacts ability to utilize application features and functions
- c. Lack of training means users will require greater levels of support
- d. IT staff do not regularly attend key seminars and technical conferences
 - i. Reduces the awareness of new technologies
 - ii. Makes understanding and supporting new technologies inefficient
 - iii. Reduces the ability to network with colleagues

Recommendation:

1. Implement a Structured Training Program

- a. Develop a regular training program for all major software systems including GIS, MUNIS, X2, MS Office, etc...
 - i. Initial census to determine training requirements/objectives
 - ii. Determine skill level and requirements
 - iii. Develop classes and training programs
 - iv. Identify trainees
 - v. Administer training
 - vi. Evaluate training program
- b. Update new employee orientation to include training
- c. Consider using outside training classes
 - i. Private trainers have developed most of the material needed for major software
 - ii. Frees up internal resources
- d. Attend software user groups and user conferences
 - i. Provides an opportunity to see new features that are being developed
 - ii. Allows you to influence development

IV. E – Promote Knowledge and Understanding of Town-Wide Technologies

- iii. Develop contacts/networks with peers
- e. Implement a training plan for IT staff
 - i. Encourage obtaining certifications that are applicable the their job functions
 - ii. Allow seminar attendance
 - iii. Ensure training occurs with major software/hardware upgrades

Benefits

- Increased productivity
- Decreased need for supervision
- Empowered users
- More confident employees

Organizational Impact/Risk

- Level of difficulty to implement is Low due to:
 - Outside resources could be used to implement capabilities
- Cost/Risk of doing nothing is Moderate due to:
 - Maintain current inefficiencies

Finding:

1. The Town has Four Different Websites Offering Various Services

- a. Informational services
 - i. News, events, notices
 - ii. Meeting times, agendas, contact information
 - iii. Program and service information
 - iv. Action Requests
- b. E-commerce services
 - i. Tax payments
 - ii. Meal Magic
 - iii. Assessments and maps
- c. The citizen survey identified the following as the most important potential on-line services:
 - i. Parents/student portal
 - ii. On-line hazard alerts
 - iii. On-line voting
 - iv. On-line payments

Recommendations:

1. Create A Website Committee To Sponsor Oversight Of All The Websites - Key Responsibilities Include:

- a. Oversight and direction for development and maintenance
- b. Programming and content standards
- c. Sounding board of departments regarding web-site decisions
- d. Coordinate the collaboration of the various websites (Town, APS, Public Safety, and Library)
- e.

IV. F – Expand Governmental Services Through Information Technology

2. Increase the Use of the Internet For Residents, Vendors and Employees:

- a. Enhance services to residents
 - i. Develop a marketing plan to promote/educate residents about existing and new online services
 - ii. Expand on-line payment options for utility billing and other items
 - iii. Allow residents to apply for licenses or permits online and schedule inspections
 - Requires new permitting system
 - iv. Develop an education portal
 - Allows parents to view student homework and other information
 - v. Allows citizens 24/7 access to information
- b. Evaluate and Implement the MUNIS “Vendor Self Service” module
 - i. Enhance business with vendors:
 - ii. Allows vendors access to appropriate information (checks, invoices, purchase orders)
 - iii. Vendors can register on-line for bids
- c. Evaluate and Implement MUNIS Employee Self Serve module
 - i. Employees can monitor and maintain personal information
 - ii. Employees can submit leave requests
 - iii. Allows applicants to post resumes online

Benefits

- Enhances services to residents and employees
- Automates business process
- Reduces inquiries from vendors
- Increase efficiency through reduction of duplicate data
- Empowers user

Organizational Impact/Risk

- Level of difficulty to implement is Moderate due to:
 - Requires additional resources to enhance capabilities
 - Will require additional software to be purchased
- Cost/Risk of doing nothing is High due to:
 - Maintains inefficiencies within the Town
 - Impacts ability for residents to access information and/or perform Town services
 - Residents want 24x7x365 services from the Town
 - Helps establish and implement global email and document standards

On the following pages, we have provided:

- A. Department Interview List
- B. Internal Survey Summary
- C. External Survey Summary

A. Acknowledgements

This project relied heavily on information that could only be obtained from the employees of the Town of Andover and Andover Public Schools. Our challenge was to accumulate key information and as many viewpoints in a compressed amount of time. A lot of information and viewpoints were identified through focus group sessions and individual interviews.

Focus Groups – Twenty-one focus groups, consisting of representatives from all Town departments and Andover Public Schools were conducted over the course of a three to four week period. These two-hour sessions gave employees from all aspects of the Town’s government the opportunity to share ideas and identify specific needs relevant to the use of technology in their departments. Certain groups were developed along operational lines, as in order to concentrate on common processes shared between and among departments, other groups were developed along departmental lines. The departments are identified later in this section .

Focus group members were asked to consider the following five questions:

1. What are the business problems/obstacles currently experienced by your department or school?
2. How do these problems affect the flow of information through your department or school and your ability to deliver service?
3. What other departments/functions do you rely on, and rely on you, for information necessary to complete tasks and provide services?
4. What changes would you make to improve the flow and manipulation of data through your department or school?
5. Please provide the top five reports that are currently used to assist in the management of your department or school.

The responses to these questions were evaluated for common themes and specific issues that show how data is processed within and between the Town’s departments.

Status Meetings - Ad-hoc meetings were held with the ITC to periodically review the progress of the project and to discuss ideas, raise issues and address any concerns in a timely fashion. These meetings also helped to identify other potential opportunities and to confirm that the project was on track.

V. Appendix – Departmental Interview List

The following groups were directly involved in the oversight and development of the Andover Strategic Information Technology Plan. We wish to thank all who participated for their time, knowledge and efforts. The Departments that participated included:

Town of Andover

• Assessor	• Board of Selectmen
• Building Division	• Central Purchasing
• Community Development & Planning	• Community Services
• Conservation Division	• Elder Services
• Finance Department	• Fire & Rescue Department
• Health Department	• Information Technology – Library
• Information Technology – Public Safety	• Information Technology – Town
• Library	• Plant & Facilities
• Police Department	• Public Works
• Public Works	• Tax Collector
• Town Accountant	• Town Clerk
• Town Manager	• Treasurer
• Veteran’s Services	• Youth Services

Andover Public Schools

• Superintendent’s Office	• School Committee
• Business Office	• Human Resources
• Payroll	• Information Technology – APS
• Media Specialists	• Principals
• School Secretaries	• Teachers

B. Internal and external Andover Surveys Overview

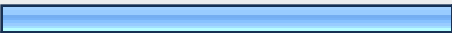
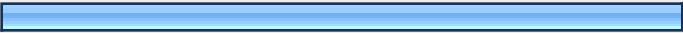
On the following pages, we have included the summaries of both the internal and external project surveys. Both surveys were created using Survey Monkey and were provided to participants on-line through a URL link. Both surveys were reviewed and approved by the ITC. Emails were sent to all professional staff of the Town of Andover. Each user was asked to participate in the survey and provide confidential responses. The external survey followed the same protocol as well. The Town and APS used their respective distribution lists to push the survey links to Andover residents.

Overall there were 281 internal respondents and 627 external survey participants. The goals and objectives of the survey were to validate and confirm focus group and individual interview sessions as well as provide feedback in the technology direction for the Town. Blum Shapiro compiled the internal and external surveys using the Survey Monkey compilation tools. Outline on the following pages are summary responses of the internal and external surveys. We did not include any additional comments for either the internal or external survey.

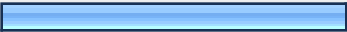
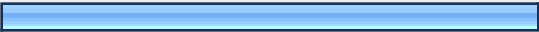

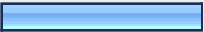
Andover Internal Technology Survey

1. How frequently do you use the following technology capabilities?						
	Daily	Weekly	Monthly	Yearly	Never/(N/A)	Response Count
A computer	98.9% (278)	1.1% (3)	0.0% (0)	0.0% (0)	0.0% (0)	281
Email	97.9% (275)	1.8% (5)	0.4% (1)	0.0% (0)	0.0% (0)	281
Geographical Information System (GIS)	8.3% (22)	14.8% (39)	14.4% (38)	7.2% (19)	55.3% (146)	264
Word Processing	74.7% (210)	16.7% (47)	3.9% (11)	0.7% (2)	3.9% (11)	281
Spreadsheet	35.1% (97)	24.6% (68)	16.7% (46)	6.5% (18)	17.0% (47)	276
Presentation Software	9.9% (27)	14.0% (38)	28.3% (77)	17.6% (48)	30.1% (82)	272
Database	36.1% (97)	16.0% (43)	14.1% (38)	8.9% (24)	24.9% (67)	269
Document scanning/PDF creation	16.6% (45)	23.6% (64)	19.2% (52)	8.9% (24)	31.7% (86)	271
Remote access	25.5% (68)	22.5% (60)	8.2% (22)	3.4% (9)	40.4% (108)	267
Listening to audio files	15.2% (41)	28.1% (76)	18.5% (50)	10.4% (28)	27.8% (75)	270
Viewing video Files	16.0% (43)	29.4% (79)	24.9% (67)	7.4% (20)	22.3% (60)	269
Video conferencing	0.4% (1)	1.5% (4)	7.5% (20)	10.1% (27)	80.5% (215)	267
Instant messaging	11.8% (31)	4.2% (11)	4.6% (12)	2.3% (6)	77.2% (203)	263
Internet	85.3% (238)	11.5% (32)	2.5% (7)	0.0% (0)	0.7% (2)	279
Intranet	30.1% (83)	25.7% (71)	26.4% (73)	6.2% (17)	11.6% (32)	276
Webinars	0.8% (2)	2.3% (6)	16.2% (43)	19.2% (51)	61.7% (164)	266

Netmeeting	0.8% (2)	0.4% (1)	6.4% (17)	7.9% (21)	84.6% (225)	266
Mobile computing	15.7% (42)	9.0% (24)	7.5% (20)	1.9% (5)	65.9% (176)	267
	answered question					281
	skipped question					0


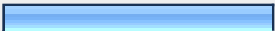
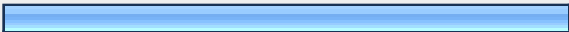
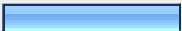

2. Does the Town adequately financially support the technology needs of Andover?		
		Response Percent
Yes		39.8%
No		60.2%
	answered question	
	skipped question	

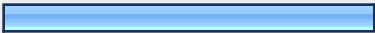
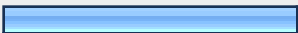
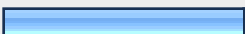
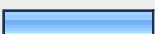


3. I use the Internet at work to:(Select all that apply)						
	Daily	Weekly	Monthly	Yearly	Never/(N/A)	Response Count
Perform research	65.1% (181)	25.5% (71)	4.7% (13)	2.2% (6)	2.5% (7)	278
Obtain on-line training	11.0% (29)	11.7% (31)	28.4% (75)	29.2% (77)	19.7% (52)	264
Access other Government related sites	24.7% (68)	32.4% (89)	25.8% (71)	9.1% (25)	8.0% (22)	275
Access personal information	24.3% (63)	27.4% (71)	18.5% (48)	3.9% (10)	25.9% (67)	259
Register for seminars	6.3% (17)	4.1% (11)	32.5% (87)	38.1% (102)	19.0% (51)	268
Access news or traffic information	31.5% (85)	25.2% (68)	16.7% (45)	4.1% (11)	22.6% (61)	270
Social Networking	6.9% (18)	10.0% (26)	6.9% (18)	2.7% (7)	73.4% (190)	259
Other (please specify)						38
	answered question					279
	skipped question					2

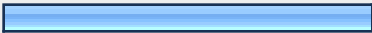
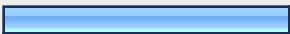
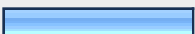
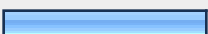


4. Which IT Department primarily supports you and your operations?(Required)		
		Response Percent
		Response Count
Town IT Department		30.2%
School District IT Department		47.3%
Library IT Department		5.0%
Public Safety IT Department		17.4%
	<i>answered question</i>	
		281
	<i>skipped question</i>	
		0

5. Please rate the following aspects of the IT Department that primarily supports you:							
	Excellent	Good	Adequate	Needs Improvement	Unacceptable	N/A	Response Count
-Supports my critical application software	31.7% (86)	25.5% (69)	16.6% (45)	17.7% (48)	4.4% (12)	4.1% (11)	271
-Maintains my hardware	36.4% (100)	22.5% (62)	18.2% (50)	16.7% (46)	5.1% (14)	1.1% (3)	275
-Understands my business requirements	29.3% (80)	17.9% (49)	14.7% (40)	20.9% (57)	8.4% (23)	8.8% (24)	273
-Communicates clearly and effectively	32.4% (89)	24.0% (66)	18.2% (50)	18.5% (51)	5.8% (16)	1.1% (3)	275
-Keeps me informed of progress of technology projects	27.5% (75)	19.4% (53)	20.1% (55)	19.0% (52)	10.6% (29)	3.3% (9)	273
-Works with me effectively	34.7% (95)	24.5% (67)	18.2% (50)	15.7% (43)	6.2% (17)	0.7% (2)	274
-Responds promptly to problems	40.0% (110)	22.5% (62)	16.4% (45)	13.5% (37)	6.9% (19)	0.7% (2)	275
-Meets my departments overall goals	30.5% (84)	16.7% (46)	16.0% (44)	21.8% (60)	11.6% (32)	3.3% (9)	275
	answered question						277
	skipped question						4

6. Please provide any additional comments for the aforementioned questions:		
		Response Count
		73
	<i>answered question</i>	73
	<i>skipped question</i>	208

7. How often do you contact the IT Department?			
		Response Percent	Response Count
Daily		7.7%	21
Weekly		23.7%	65
Monthly		50.0%	137
Yearly		15.3%	42
Never/(N/A)		3.3%	9
		<i>answered question</i>	274
		<i>skipped question</i>	7

8. Overall how do you rate the IT Department's services provided?				
			Response Percent	Response Count
Excellent			32.7%	90
Good			25.8%	71
Adequate			21.1%	58
Needs Improvement			13.1%	36
Unacceptable			6.5%	18
N/A			0.7%	2
			* Please provide comments (Required)	76
			answered question	275
			skipped question	6

9. What level of confidence do you have in your IT Department's ability to deliver your required services?			
		Response Percent	Response Count
Excellent		32.5%	88
Good		25.1%	68
Adequate		16.6%	45
Needs Improvement		17.7%	48
Unacceptable		7.4%	20
N/A		0.7%	2
		answered question	271
		skipped question	10

10. Please provide any suggestions to enhance your IT Department's services to your department:		
		Response Count
		58
	answered question	58
	skipped question	223

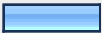
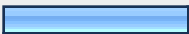
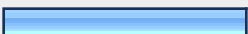
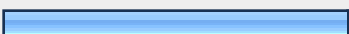
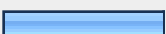
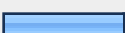
11. What other on-line services should be offered to residents?							
	Critical	Very Important	Important	Some What Important	Nice to Have	No Opinion/ (N/A)	Response Count
-Initiate permits	7.5% (19)	19.2% (49)	16.5% (42)	4.7% (12)	9.0% (23)	43.1% (110)	255
-Scheduling permit inspections	7.5% (19)	16.1% (41)	16.1% (41)	6.3% (16)	9.0% (23)	45.1% (115)	255
-Sign-up for Town sponsored programs(e.g. recreation, elderly, youth)	14.8% (38)	23.7% (61)	20.2% (52)	3.9% (10)	8.2% (21)	29.2% (75)	257
-On-line payments (e.g. utility, permits,licenses)	16.9% (43)	25.5% (65)	18.8% (48)	3.5% (9)	7.5% (19)	27.8% (71)	255
-On-Line hazzard alerts	28.8% (74)	22.2% (57)	12.1% (31)	4.3% (11)	5.4% (14)	27.2% (70)	257
-Assess to Blogs	3.3% (8)	4.1% (10)	12.3% (30)	12.3% (30)	20.1% (49)	48.0% (117)	244
-Access to Wikis (information up dated by residents	2.9% (7)	4.9% (12)	12.7% (31)	12.2% (30)	18.0% (44)	49.4% (121)	245
-Wireless access	22.3% (57)	18.0% (46)	9.8% (25)	5.5% (14)	14.1% (36)	30.5% (78)	256
-Video Conferencing	5.2% (13)	9.6% (24)	12.8% (32)	9.2% (23)	16.0% (40)	47.2% (118)	250
-RSS Feeds	3.7% (9)	5.7% (14)	9.4% (23)	8.6% (21)	10.6% (26)	62.0% (152)	245
-Targeted email subscription	8.3% (20)	11.6% (28)	14.5% (35)	7.4% (18)	9.9% (24)	48.3% (117)	242
Other (please specify)							13
	answered question						263
	skipped question						18


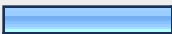
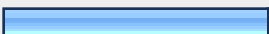
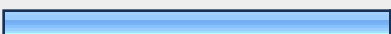
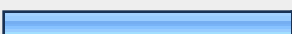

12. I use the Intranet at work to:(Select all that apply)						
	Daily	Weekly	Monthly	Yearly	Never/(N/A)	Response Count
-Obtain Department information	28.6% (75)	33.2% (87)	16.8% (44)	6.9% (18)	14.5% (38)	262
-Store Department information	21.3% (53)	13.3% (33)	12.9% (32)	6.4% (16)	46.2% (115)	249
-Access and/or store documents	31.7% (80)	20.6% (52)	11.9% (30)	6.0% (15)	29.8% (75)	252
-Provides other services	19.5% (47)	12.9% (31)	14.1% (34)	6.2% (15)	47.3% (114)	241
-Collaboration	17.4% (41)	16.1% (38)	9.3% (22)	5.9% (14)	51.3% (121)	236
Other (please specify)						21
	answered question					264
	skipped question					17

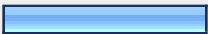
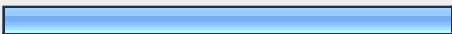
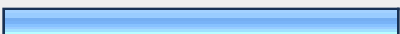

13. I would like the following capabilities to help me and/or job functions:							
	Critical	Very Important	Important	Some What Important	Nice to Have	No Opinion/ (N/A)	Response Count
-Ability to create on-line purchase requisitions	14.2% (37)	16.2% (42)	16.2% (42)	6.2% (16)	11.9% (31)	35.4% (92)	260
-Ability to create on-line budgets	9.7% (25)	12.7% (33)	12.4% (32)	8.1% (21)	9.7% (25)	47.5% (123)	259
-Ability to access on-line budget/actual information	14.3% (36)	15.1% (38)	17.5% (44)	5.6% (14)	12.7% (32)	34.9% (88)	252
-Ability to electronically enter time and attendance info	24.8% (64)	20.9% (54)	13.2% (34)	4.7% (12)	11.2% (29)	25.2% (65)	258
-Ability to modify personal informaiton on-line	13.2% (34)	20.2% (52)	16.0% (41)	8.9% (23)	12.8% (33)	28.8% (74)	257
-Ability to view payroll and accrual history on-line	17.0% (44)	19.7% (51)	15.8% (41)	7.3% (19)	14.7% (38)	25.5% (66)	259
-Ability to access on-line GIS information	12.1% (31)	11.7% (30)	12.5% (32)	6.3% (16)	8.2% (21)	49.2% (126)	256
-Ability to store documents electronically (digital imaging)	35.5% (93)	16.8% (44)	12.6% (33)	5.3% (14)	10.3% (27)	19.5% (51)	262
-Remote access to departmental information remotely	31.5% (84)	22.1% (59)	12.0% (32)	5.2% (14)	13.1% (35)	16.1% (43)	267
-Ability to update departmental website content management information	20.9% (54)	16.3% (42)	14.3% (37)	7.0% (18)	9.3% (24)	32.2% (83)	258
-Ability to have own website	17.3% (44)	14.5% (37)	8.6% (22)	11.0% (28)	14.1% (36)	34.5% (88)	255
-Ability to scan documents and store PDF documents	33.1% (86)	24.6% (64)	11.9% (31)	7.3% (19)	8.8% (23)	14.2% (37)	260

-Ability to create Video Conferencing	7.3% (19)	10.0% (26)	12.0% (31)	9.3% (24)	15.1% (39)	46.3% (120)	259
-Ability to access Webinars	8.7% (22)	13.0% (33)	14.2% (36)	12.2% (31)	11.8% (30)	40.2% (102)	254
-Ability to initiate Netmeetings	7.5% (19)	9.1% (23)	11.4% (29)	10.2% (26)	12.6% (32)	49.2% (125)	254
	answered question						269
	skipped question						12



14. Please provide additonal comments regarding new technology needs and/or services that need to be provided:			Response Count
			27
	answered question		27
	skipped question		254

15. How many years have worked for the Town or School District of Andover? (Required)				
			Response Percent	Response Count
0 - 2			8.2%	23
3 - 5			16.0%	45
6 - 9			21.4%	60
10 - 19			30.2%	85
20 - 25			13.9%	39
26+ Years			10.3%	29
			<i>answered question</i>	281
			<i>skipped question</i>	0

16. What is your age? (Required)			
		Response Percent	Response Count
18 - 24		0.4%	1
25 - 34		14.6%	41
35 - 44		23.1%	65
45 - 55		34.2%	96
56 - 64		25.3%	71
65+ years		2.5%	7
		answered question	281
		skipped question	0

17. I consider myself up-to-date on current technology devices and software:(Required)			
		Response Percent	Response Count
Very up-to-date		17.8%	50
Up-to-date		39.5%	111
Somewhat up-to-date		34.9%	98
Not very up-to-date		7.8%	22
		answered question	281
		skipped question	0

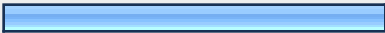
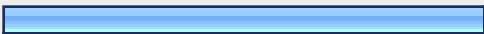
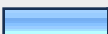



Andover Resident Technology Survey

1. I have a PC/Computer at home:			
		Response Percent	Response Count
Yes		99.8%	624
No		0.2%	1
		<i>answered question</i>	625
		<i>skipped question</i>	2

2. What type of internet connection do you have at home?		
		<div>Response Percent</div> <div>Response Count</div>
Dial up modem	<div><div></div></div>	<div>0.3%</div> <div>2</div>
DSL	<div><div></div></div>	<div>3.7%</div> <div>23</div>
Cable	<div><div></div></div>	<div>35.7%</div> <div>223</div>
Wireless	<div><div></div></div>	<div>14.6%</div> <div>91</div>
Verizon FIOS	<div><div></div></div>	<div>44.3%</div> <div>277</div>
Other	<div><div></div></div>	<div>0.6%</div> <div>4</div>
Not Sure	<div><div></div></div>	<div>0.6%</div> <div>4</div>
Not Applicable	<div><div></div></div>	<div>0.2%</div> <div>1</div>
	answered question	
	625	
	skipped question	
	2	

3. How often do you visit the following websites:						
	Daily	Weekly	Monthly	Yearly	Never/(N/A)	Response Count
Town Website	1.6% (10)	18.9% (116)	52.3% (321)	20.8% (128)	6.4% (39)	614
School System Website	11.1% (68)	31.8% (195)	34.3% (210)	8.3% (51)	14.5% (89)	613
Public Safety Website	0.3% (2)	2.3% (14)	9.9% (59)	21.0% (125)	66.4% (396)	596
Library Website	3.3% (20)	27.6% (170)	38.5% (237)	16.3% (100)	14.3% (88)	615
	answered question					627
	skipped question					0

4. Why do you visit the various Websites? (Select all that apply)					
	Town Website	School Website	Public Safety Website	Library Website	Response Count
News, events, notices	74.6% (425)	72.1% (411)	12.5% (71)	46.7% (266)	570
Meeting dates, times, agendas	61.6% (263)	67.7% (289)	2.8% (12)	22.5% (96)	427
Office hours, location, contact info	75.6% (368)	47.4% (231)	12.7% (62)	55.4% (270)	487
Program and service info	71.1% (340)	46.9% (224)	7.3% (35)	54.8% (262)	478
Publications (e.g. budgets, special reports)	81.6% (217)	40.2% (107)	4.1% (11)	15.0% (40)	266
Major project updates	85.3% (197)	35.5% (82)	9.5% (22)	10.4% (24)	231
Announcements	63.2% (292)	73.2% (338)	10.8% (50)	36.8% (170)	462
E-Services (e.g. tax payments, assessments, maps, etc.)	86.9% (199)	7.4% (17)	2.6% (6)	16.2% (37)	229
Home work information	4.8% (14)	94.9% (279)	0.7% (2)	8.8% (26)	294
Student grade information	5.0% (12)	98.3% (235)	1.7% (4)	2.9% (7)	239
On-line resources	46.0% (174)	44.4% (168)	10.1% (38)	68.0% (257)	378
Not applicable	6.8% (5)	34.2% (25)	79.5% (58)	28.8% (21)	73
Other (please specify)					70
	answered question				615
	skipped question				12

5. In general, I would rather conduct Town business/services:			
			Response Percent
			Response Count
Via Email		33.7%	205
Via Web		42.4%	258
In person		9.0%	55
By Telephone		5.4%	33
By Letter		3.1%	19
Other (please specify)		6.4%	39
			answered question
			609
			skipped question
			18

6. How do you rate the on-line services offered by Andover?							
	Excellent	Good	Adequate	Needs Improvement	Unacceptable	N/A	Response Count
Town	9.6% (57)	44.0% (261)	28.7% (170)	8.9% (53)	0.8% (5)	7.9% (47)	593
School	15.3% (90)	39.5% (232)	18.5% (109)	11.6% (68)	1.0% (6)	14.1% (83)	588
Public Safety	3.4% (18)	15.7% (82)	11.5% (60)	4.6% (24)	0.4% (2)	64.4% (337)	523
Library	30.8% (182)	39.4% (233)	12.7% (75)	3.4% (20)	0.0% (0)	13.7% (81)	591
							answered question
							615
							skipped question
							12

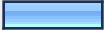

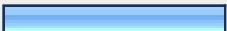
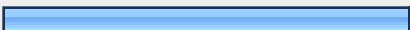
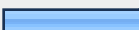
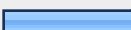
7. How frequently do you use the following e-Services?						
	Daily	Weekly	Monthly	Yearly	Never/(N/A)	Response Count
Citizen Request-Town	0.0% (0)	1.6% (8)	2.2% (11)	7.4% (37)	88.9% (447)	503
Assessed Values-Town	0.0% (0)	1.3% (7)	8.9% (48)	38.4% (208)	51.5% (279)	542
Bill Payments-Town	0.0% (0)	0.2% (1)	9.7% (50)	9.3% (48)	80.9% (419)	518
Cemetery Search-Town	0.0% (0)	0.2% (1)	0.2% (1)	3.6% (18)	96.0% (485)	505
GIS Viewer-Town	0.2% (1)	2.1% (11)	7.8% (40)	14.6% (75)	75.2% (386)	513
Email notices-Town	2.3% (12)	22.1% (115)	17.1% (89)	6.9% (36)	51.6% (269)	521
Download Forms/Publications-Town	0.2% (1)	3.6% (19)	22.6% (120)	40.8% (216)	32.8% (174)	530
Stream Video Committee Meetings-Town	0.2% (1)	0.6% (3)	7.9% (39)	8.9% (44)	82.4% (407)	494
On-line Recreation Registration-Town	0.2% (1)	3.7% (20)	24.2% (129)	34.6% (185)	37.3% (199)	534
Bid Postings-School	0.8% (4)	2.3% (11)	2.8% (13)	3.2% (15)	90.9% (429)	472
Email notices-School	29.7% (163)	35.0% (192)	8.0% (44)	1.8% (10)	25.5% (140)	549
Document Center-School	4.1% (20)	9.4% (46)	12.5% (61)	10.3% (50)	63.7% (310)	487
Meal Magic-School	0.9% (5)	9.3% (49)	39.0% (206)	6.4% (34)	44.3% (234)	528
Text Messaging-Library	0.4% (2)	2.1% (10)	2.5% (12)	3.3% (16)	91.7% (442)	482
Email service-Library	3.2% (17)	19.1% (100)	21.6% (113)	5.5% (29)	50.6% (265)	524
Facebook - Library	1.6% (8)	1.8% (9)	2.8% (14)	1.0% (5)	92.7% (458)	494


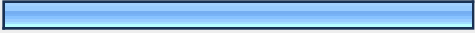
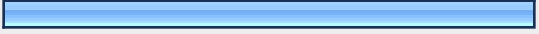


Twitter - Library	1.4% (7)	2.2% (11)	1.6% (8)	1.6% (8)	93.1% (458)	492
Online databases - Library	3.2% (16)	18.3% (90)	24.9% (123)	17.2% (85)	36.3% (179)	493
Other (please specify)						32
answered question						604
skipped question						23

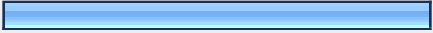

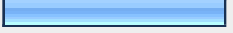

8. How often do you use the cable television public access channels to obtain Town information?			
		Response Percent	Response Count
Daily	<div><div></div></div>	2.1%	13
Weekly	<div><div></div></div>	12.4%	76
Monthly	<div><div></div></div>	29.2%	179
Yearly	<div><div></div></div>	15.4%	94
Never/(N/A)	<div><div></div></div>	40.8%	250
	answered question		612
	skipped question		15

9. Please rate the importance to you of these potential on-line services?							
	Critical	Very Important	Important	Somewhat Important	Nice to Have	No Opinion	Response Count
-Apply for licenses or permits	9.7% (56)	33.0% (191)	24.6% (142)	8.1% (47)	16.8% (97)	7.8% (45)	578
-Scheduling permit inspections	8.3% (47)	26.5% (150)	22.1% (125)	8.5% (48)	15.6% (88)	18.9% (107)	565
-Sign-up for Town sponsored programs(e.g. recreation, elderly, youth)	19.2% (114)	41.3% (245)	20.9% (124)	7.1% (42)	7.4% (44)	4.0% (24)	593
-On-line payments (e.g. utility, permits,licenses)	18.3% (106)	33.1% (192)	22.1% (128)	7.1% (41)	13.4% (78)	6.0% (35)	580
-On-Line hazard alerts	29.8% (171)	30.3% (174)	18.5% (106)	6.8% (39)	8.0% (46)	6.6% (38)	574
-Access to Blogs	1.5% (8)	8.2% (45)	11.7% (64)	16.0% (88)	26.6% (146)	36.1% (198)	549
-Access to Wikis (information up dated by residents)	1.7% (9)	8.1% (44)	11.8% (64)	17.3% (94)	29.5% (160)	31.5% (171)	542
-Wireless access	15.4% (85)	20.3% (112)	19.0% (105)	9.8% (54)	18.3% (101)	17.4% (96)	553
-Video Conferencing	2.4% (13)	10.5% (57)	13.1% (71)	12.5% (68)	26.0% (141)	35.5% (193)	543
-Reserve a room, ball field or other Town facility	6.6% (37)	19.6% (109)	24.2% (135)	13.8% (77)	19.9% (111)	15.8% (88)	557
-Vote on Town issues	21.9% (125)	33.2% (189)	20.5% (117)	5.6% (32)	11.9% (68)	6.8% (39)	570
-Vote online for elections	22.0% (125)	31.5% (179)	18.5% (105)	6.2% (35)	11.8% (67)	10.0% (57)	568
-Ed-Line parents/students portal	35.1% (194)	25.3% (140)	14.1% (78)	3.1% (17)	5.2% (29)	17.2% (95)	553
Other (please specify)							47
answered question							604

	<i>skipped question</i>	23

10. How many years have you lived in Andover, MA? (Required)		
		Response Percent
0 - 2		8.5%
3 - 5		13.4%
6 - 9		19.5%
10 - 19		35.7%
20 - 29		11.8%
30+ Years		11.2%
	<i>answered question</i>	627
	<i>skipped question</i>	0

11. What is your age? (Required)			
		Response Percent	Response Count
18 - 24		0.0%	0
25 - 34		2.2%	14
35 - 44		41.5%	260
45 - 60		46.9%	294
61 - 74		8.6%	54
75+ years		0.8%	5
		answered question	627
		skipped question	0

12. I consider myself up-to-date on current technology devices and software: (Required)			
		Response Percent	Response Count
Very up-to-date		37.6%	236
Up-to-date		41.1%	258
Somewhat up-to-date		19.5%	122
Not very up-to-date		1.8%	11
		answered question	627
		skipped question	0